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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

EDITED BY

GEORGE CROOM ROBERTSON,

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MIND

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OF

PSYCHOLOGY AND PHILOSOPHY.

I.—THE PSYCHOLOGICAL STANDPOINT.

By John Dewey.

I.

It is a good omen for the future of philosophy that there is now a disposition to avoid discussion of particular cases in dispute, and to examine instead the fundamental presuppositions and method. This is the sole condition of discussion which shall be fruitful, and not word-bandying. It is the sole way of discovering whatever of fundamental agreement there is between different tendencies of thought, as well as of showing on what grounds the radical differences are based. It is therefore a most auspicious sign that, instead of eagerly clamouring forth our views on various subjects, we are now trying to show *why* we hold them and *why* we reject others. It is hardly too much to say that it is only within the past ten years that what is vaguely called Transcendentalism has shown to the English reading world just why it holds what it does, and just what are its objections to the method most characteristically associated with English thinking. Assertion of its results, accompanied with attacks upon the results of Empiricism, and *vice versâ*, we had before; but it is only recently that the grounds, the reasons, the method have been stated. And no one can deny that the work has been done

well, clearly, conscientiously and thoroughly. English philosophy cannot now be what it would have been, if (to name only one of the writers) the late Prof. Green had not written. And now that the differences and the grounds for them have been so definitely and clearly stated, we are in a condition, I think, to see a fundamental agreement, and that just where the difference has been most insisted upon, *viz.*, in the standpoint. It is the *psychological* standpoint which is the root of all the difference, as Prof. Green has shown with such admirable lucidity and force. Yet I hope to be able to suggest, if not to show, that after all the psychological standpoint is what both sides have in common. In this present paper, I wish to point out that the defects and contradictions so powerfully urged against the characteristic tendency of British Philosophy are due—not to its psychological standpoint but—to its *desertion* of it. In short, the psychological basis of English philosophy has been its strength: its weakness has been that it has left this basis—that it has not been psychological enough.

In stating what is the psychological standpoint, care has to be taken that it be not so stated as to prejudge at the outset the whole matter. This can be avoided only by stating it in a very general manner. Let Locke do it. "I thought that the first step towards satisfying several inquiries the mind of man was very apt to run into was to take a view of our own understandings, examine our own powers, and see to what things they were adapted." (Book i., ch. 1, § 7.) This, with the further statement that "Whatsoever is the object of the understanding when a man thinks" is an Idea, fixed the method of philosophy. We are not to determine the nature of reality or of any object of philosophical inquiry by examining it as it is in itself, but only as it is an element in our knowledge, in our experience, only as it is related to our mind, or is an 'idea'. As Prof. Fraser well puts it, Locke's way of stating the question "involves the fundamental assumption of philosophy, that real things as well as imaginary things, whatever their absolute existence may involve, exist for us only through becoming involved in what we mentally experience in the course of our self-conscious lives" (*Berkeley*, p. 20). Or, in the ordinary way of putting it, the nature of all objects of philosophical inquiry is to be fixed by finding out what experience says about them. And psychology is the scientific and systematic account of this experience. This and this only do I understand to be essential to the psychological standpoint, and, to avoid misunderstanding from the start, I shall ask the reader not

to think any more into it, and especially to avoid reading into it any assumption regarding its 'individual' and 'introspective' character. The further development of the standpoint can come only in the course of the article.

Now that Locke, having stated his method, immediately deserted it, will, I suppose, be admitted by all. Instead of determining the nature of objects of experience by an account of our knowledge, he proceeded to explain our knowledge by reference to certain unknowable substances, called by the name of matter, making impressions on an unknowable substance, called mind. While, by his method he should explain the nature of 'matter' and of 'mind'—two "inquiries the mind of man is very apt to run into"—from our own understandings, from 'ideas,' he actually explains the nature of our ideas, of our consciousness, whether sensitive or reflective, from that whose characteristic, whether mind or matter, is to be *not* ideas nor consciousness nor in any possible relation thereto, because utterly unknowable. Berkeley, in effect, though not necessarily, as it seems to me, in intention, deserted the method in his reference of ideas to a purely transcendent spirit. Whether or not he conceived it as purely transcendent, yet at all events, he did not show its necessary immanence *in* our conscious experience. But Hume? Hume, it must be confessed, is generally thought to stand on purely psychological ground. This is asserted as his merit by those who regard the theory of the association of ideas as the basis of all philosophy; it is asserted as his defect by those who look at his sceptical mocking of knowledge as following necessarily from his method. But according to both, he, at least, was consistently psychological. Now the psychological standpoint is this: nothing shall be admitted into philosophy which does not show itself in experience, and its nature, that is, its place in experience shall be fixed by an account of the process of knowledge—by Psychology. Hume reversed this. He started with a theory as to the nature of reality and determined experience from that. The only reals for him were certain irrelated sensations and out of these knowledge arises or becomes. But if knowledge or experience becomes from them, then *they* are never known and never can be. If experience *originates from* them, they never were and never can be elements *in* experience. Sensations as known or experienced are always related, classified sensations. That which is known as existing only in experience, which has its existence only as an element of knowledge, cannot be the same when transported out of knowledge, and made its origin. A known

sensation has its sole existence *as* known; and to suppose that it can be regarded as *not* known, as prior to knowledge, and still be what it is *as* known, is a logical feat which it is hoped few are capable of. Hume, just as much as Locke, assumes that something exists out of relation to knowledge or consciousness, and that this something is ultimately the only real, and that from it knowledge, consciousness, experience come to be. If this is not giving up the psychological standpoint, it would be difficult to tell what is. Hume's "distinct perceptions which are distinct existences," and which give rise to knowledge only as they are related to each other, are so many things-in-themselves. They existed prior to knowledge, and therefore are not for or within it.

But it will be objected that all this is a total misapprehension. Hume did not assume them *because* they were prior to and beyond knowledge. He examined experience and found, as any one does who analyses it, that it is made up of sensations; that, however complex or immediate it appears to be, on analysis it is always found to be but an aggregate of grouped sensations. Having found this by analysis, it was his business, as it is that of every psychologist, to show *how* by composition these sensations produce knowledge and experience. To call them things-in-themselves is absurd—they are the simplest and best known things in all our experience. Now this answer, natural as it is, and conclusive as it seems, only brings out the radical defect of the procedure. The dependence of our knowledge upon sensations—or rather that knowledge is nothing but sensations as related to each other—is not denied. What is denied is the correctness of the procedure which, discovering a certain element *in* knowledge to be necessary for knowledge, therefore concludes that this element has an existence prior to or apart from knowledge. The alternative is not complex. Either these sensations are the sensations which are known—sensations which are elements in knowledge—and then they cannot be employed to account for its origin; or they can be employed to account for its origin, and then are not sensations as they are known. In this case, they must be something of which nothing can be said except that they are *not* known, *are* not in consciousness—that they are things-in-themselves. If, in short, these sensations are not to be made 'ontological,' they must be sensations known, sensations which are elements in experience; and if they exist only for knowledge, then knowledge is wherever they are, and they cannot account for its origin. The supposed objection rests upon a distinction between sensations as they are known,

and sensations as they exist. And this means simply that existence—the only real existence—is not for consciousness, but that consciousness comes about from it; it makes no difference that one calls it sensations, and another the 'real existence' of mind or matter. If one is anxious for a thing-in-itself in one's philosophy, this will be no objection. But we who are psychological, who believe in the relativity of knowledge, should we not make a halt before we declare a fundamental disparity between a thing as it is and a thing as it is known—whether that thing be sensation or what not?

As this point is fundamental, let me dwell upon it a little. All our knowledge originates from sensations. Very good. But what are these sensations? Are they the sensations which we know: the classified related sensations: *this* smell, or *this* colour? No, these are the results of knowledge. They too presuppose sensations as their origin. What about these original sensations? They existed before knowledge, and knowledge originated and was developed by their grouping themselves together. Now, waiving the point that knowledge *is* precisely this grouping together and that therefore to tell us that it originated from grouping sensations is a good deal like telling us that knowledge originated knowledge, that experience is the result of experience,—I must inquire again what these sensations are. And I can see but this simple alternative: either they are known, are, from the first, elements in knowledge, and hence cannot be used to account for the origin of knowledge; or they are not, and, what is more to the point, they never can be. As soon as they are known, they cease to be the pure sensation we are after and become an element *in* experience, *of* knowledge. The conclusion of the matter is, that sensations which can be used to account for the *origin* of knowledge or experience, are sensations which cannot be known, are things-in-themselves which are not relative to consciousness. I do not here say that there are not such: I only say that, if there are, we have given up our psychological standpoint and have become 'ontologists' of the most pronounced character.

But the confusion is deeply rooted, and I cannot hope that I have yet shown that any attempt to show the *origin* of knowledge or of conscious experience, presupposes a division between things as they are for knowledge or experience and as they are in themselves, and is therefore non-psychological in character. I shall be told that I am making the whole difficulty for myself; that I persist in taking the standpoint of an adult whose experience is already formed; that I must

become as an infant to enter the true psychological kingdom. If I will only go back to that stage, I shall find a point where knowledge has not yet begun, but where sensations must be supposed to exist. Owing to our different standing, since these sensations have to us been covered with the residues of thousands of others and have become symbolic of them, we cannot tell what these sensations are; though in all probability they are to be conceived in some analogy to nervous shocks. But the truth of our psychological analysis does not depend upon this. The fact that sensations exist before knowledge and that knowledge comes about by their organic registration and integration is undisputed. And I can imagine that I am told that if I would but confine myself to the analysis of given facts, I should find this whole matter perfectly simple—that the sensations have not the remotest connexion with any sort of 'metaphysics' or analogy with things-in-themselves, and that we are all the time on positive scientific ground. I hope so. We are certainly approaching some degree of definiteness in our conception of what constitutes a sensation. But I am afraid that in thus defining the nature of a sensation, in taking it out of the region of vagueness, my objector has taken from it all those qualities which would enable it to serve as the origin of knowledge or of conscious experience. It is no longer a thing-in-itself, but neither is it, I fear, capable of accounting for experience. For, alas, we have to use experience to account for it. An infant, whether I think myself back to my early days or select some other baby, is, I suppose, a known object existing in the world of experience; and his nervous organism and the objects which affect it, these too, I suppose, are known objects which exist for consciousness. Surely it is not a baby thing-in-itself which is affected, nor a world thing-in-itself which calls forth the sensation. It is the known baby and a known world in definite action and reaction upon each other, and this definite relation is precisely a sensation. Yes, we are on positive scientific ground, and for that very reason we are on ground where the origin of knowledge and experience cannot be accounted for. Such a sensation I can easily form some conception of. I can even imagine how such sensations may by their organic registration and integration bring about that knowledge which I may myself possess. But such a sensation is not prior to consciousness or knowledge. It is but an element in the world of conscious experience. Far from being that from which all relations spring, it is itself but one relation —the relation between an organic body, and one acting upon

it. Such a sensation, a sensation which exists only within and for experience, is not one which can be used to account for experience. It is but one element in an organic whole, and can no more account for the whole, than a given digestive act can account for the existence of a living body, although this digestive act and others similar to it may no doubt be shown to be all important in the formation of a given living body. In short, we have finally arrived at the root of the difficulty. Our objector has been supposing that he could account for the origin of consciousness or knowledge because he could account for the process by which the given knowledge of a given individual came about. But if he accounts for this by something which is not known, which does not exist for consciousness, he is leaving the psychological standpoint to take the ontological; if he accounts for it by a known something, as a sensation produced by the reaction of a nervous organism upon a stimulus, he is accounting for its origin from something which exists only for and within consciousness. Consequently he is not accounting for the origin of consciousness or knowledge as such at all. He is simply accounting for the origin of an individual consciousness, or a specific group of known facts, by reference to the larger group of known facts or universal consciousness. Hence also the historic impotency of all forms of materialism. For either this matter is unknown, is a thing-in-itself, and hence may be called anything else as well as matter; or it is known, and then becomes but one set of the relations which in their completeness constitute mind,—when to account for mind from it is to assume as ultimate reality that which has existence only as substantiated by mind. To the relations of the individual to the universal consciousness, I shall return later. At present, I am concerned only to point out that, if a man comes to the conclusion that *all* knowledge is relative, that existence means existence for consciousness, he is bound to apply this conclusion to his starting-point and to his process. If he does this, he sees that the starting-point (in this case, sensations) and the process (in this case, integration of sensations) exist for consciousness also—in short, that the *becoming* of consciousness exists for consciousness only, and hence that consciousness can never have become at all. That for which all origin and change exists, can never have originated or changed.

I hope that my objector and myself have now got within sight of each other so that we can see our common ground, and the cause of our difference. We both admit that the

becoming of certain definite forms of knowledge, say Space, Time, Body, External World, &c., &c., may (in ideal, at least, if not yet as matter of actual fact) be accounted for, as the product of a series of events. Now he supposes that, because the origin of some or all of our knowledge or conscious experience, knowledge of all particular things and of all general relations, can be thus accounted for, he has thereby accounted for the origin of consciousness or knowledge itself. All I desire to point out is that he is always accounting for their origin *within* knowledge or conscious experience, and that he cannot take his first step or develop this into the next, cannot have either beginning or process, without presupposing known elements—the whole sphere of consciousness, in fact. In short, what he has been doing, is not to show the origin of consciousness or knowledge, but simply how consciousness or knowledge has differentiated itself into various forms. It is indeed the business of the psychologist to show how (not the *ideas of* space and time, &c., but) space, time, &c., arise, but since this origin is only within or for consciousness, it is but the showing of how knowledge develops *itself;* it is but the showing of how consciousness specifies itself into various given forms. He has not been telling us how knowledge became, but how it came to be in a certain way, that is, in a certain set of relations. In making out the origin of any or all particular knowledges (if I may be allowed the word), he is but showing the elements of knowledge. And in doing this, he is performing a twofold task. He is showing on the one hand what place they hold within experience, *i.e.*, he is showing their special adequacy or validity, and on the other he is explicating the nature of consciousness or experience. He is showing that it is not a bare form, but that, since these different elements arise necessarily within it, it is an infinite richness of relations. Let not the psychologist imagine then that he is showing the *origin* of consciousness, or of experience. There is nothing but themselves from which they can originate. He is but showing *what they are*, and, since they *are*, what they always have been.

I hope that it has now been made plain that the polemic against the attempt of the psychologist to account for the origin of conscious experience does not originate in any desire to limit his sphere but simply to call him away from a meaningless and self-contradictory conception of the psychological standpoint to an infinitely fruitful one. The psychological standpoint as it has developed itself is this: all that is, is for consciousness or knowledge. The business

of the psychologist is to give a genetic account of the various elements within this consciousness, and thereby fix their place, determine their validity, and at the same time show definitely what the real and eternal nature of this consciousness is. If we actually believe in experience, let us be in earnest with it, and believe also that if we only ask, instead of assuming at the outset, we shall find what the infinite content of experience is. How experience became we shall never find out, for the reason that experience always is. We shall never account for it by referring it to something else, for 'something else' always is only for and in experience. *Why* it is, we shall never discover, for it is a whole. But how the elements within the whole become we may find out, and thereby account for them by referring them to each other and to the whole, and thereby also discover why they are.

We have now reached positive ground, and, in the remainder of the paper, I wish to consider the relations, within this whole, of various specific elements which have always been "inquiries into which the mind of man was very apt to run," *viz.*: the relations of Subject and Object, and the relations of Universal and Individual, or Absolute and Finite.

II.

From the psychological standpoint the relation of Subject and Object is one which exists within consciousness. And its nature or meaning must be determined by an examination of consciousness itself. The duty of the psychologist is to show how it arises for consciousness. Put from the positive side, he must point out how consciousness differentiates itself so as to give rise to the existence within, that is for, itself of subject and object. This operation fixes the nature of the two (for they have no nature aside from their relation in consciousness), and at the same time explicates or develops the nature of consciousness itself. In this case, it reveals that consciousness is precisely the unity of subject and object.

Now psychology has never been so false to itself as to utterly forget that this is its task. From Locke downwards we find it dealing with the problems of the origin of space, time, the 'ideas' of the external world, of matter, of body, of the *Ego*, &c., &c. But it has interpreted its results so as to deprive them of all their meaning. It has most successfully avoided seeing the necessary implications of its own pro-

cedure. There are in particular two interpretations by which it has evaded the necessary meaning of its own work.

The first of these I may now deal with shortly, as it is nothing but our old friend x, the thing-in-itself in a new guise. It is Reasoned or Transfigured Realism. It sees clearly enough that everything which we know is relative to our consciousness, and it sees also clearly enough that *our* consciousness is also relative. All that we can know exists for our consciousness; but when we come to account for our consciousness we find that this too is dependent. It is dependent on a nervous organism; it is dependent upon objects which affect this organism. It is dependent upon a whole series of past events formulated by the doctrine of evolution. But this body, these objects, this series of events, they too exist but for our consciousness. Now there is no '*metaphysics*' about all this. It is positive science. Still there is a contradiction. Consciousness at once depends upon objects and events, and these depend upon, or are relative to consciousness. Hence the fact of the case must be this: The nervous organism, the objects, the series of events *as known* are relative to our consciousness, but since this itself is dependent, is a product, there is a reality behind the processes, behind our consciousness, which has produced them both. Subject and object as known *are* relative to consciousness, but there is a larger circle, a real object from which both of them emerge, but which can never be known, since to know is to relate to our consciousness. This is the problem: on one hand, the relativity of all knowledge to our consciousness; on the other, the dependence of our consciousness on something not itself. And this is the solution: a real not related to consciousness, but which has produced both consciousness itself, and the objects which as known are relative to consciousness. Now all that has been said in the first part of this article has gone for naught if it is not seen that such an argument is not a solution of the contradiction, but a statement of it. The problem is to reconcile the undoubted relativity of all existence as known, to consciousness, and the undoubted dependence of our own consciousness. And it ought to be evident that the only way to reconcile the apparent contradiction, to give each its rights without denying the truth of the other, is to think them together. If this is done, it will be seen that the solution is that the consciousness to which all existence is relative is not our consciousness, and that our consciousness is itself relative to consciousness in general. But Reasoned Realism attempts to solve the

problem not by bringing the elements together, but by holding them apart. It does not seek the higher unity which enables each to be seen as indeed true, but it attempts to divide. It attributes one element of the contradiction to our consciousness, and another to a thing-in-itself—the unknown reality. But this is only an express statement of the contradiction. If all *be* relative to consciousness, there is no thing-in-itself, just consciousness itself. If there be a thing-in-itself then all is not relative to consciousness. Let a man hold the latter if he will, but let him expressly recognise that thereby he has put himself on 'ontological' ground and adopted an 'ontological' method. Psychology he has for ever abandoned.

The other evasion is much more subtle and 'reasoned'. It is a genuine attempt to untie the Gordian knot, as the other was a slashing attempt to cut it with the sword of a thing-in-itself. It is Subjective Idealism. And I wish now to show that Subjective Idealism is *not* the meaning of the psychological standpoint applied to the relation of subject and object. It is rather a misinterpretation of it based upon the same refusal to think two undoubted facts in their unity, the same attempt to divide the contradiction instead of solving it, which we have seen in the case of attempts to determine the origin of knowledge, and of Transfigured Realism. The position is this: The necessary relation of the world of existences to consciousness is recognised. "There is no possible knowledge of a world except in reference to our minds—knowledge is a state of mind. The notion of material things is a mental fact. We are incapable even of discussing the existence of an independent material world; the very fact is a contradiction. We can speak only of a world presented to our own minds" (Bain: *The Senses and the Intellect*, p. 375). But this being stated, consciousness is now separated into two parts—one of which is the subject, which is identified with mind, *Ego*, the Internal; while the other is the object, which is identified with the External, the *Non-Ego*, Matter. "Mind is definable, in the first instance, by the *method of contrast*, or as a remainder arising from *subtracting the object world from the totality of conscious experience*" (*Ibid.*, p. 1). "The totality of our mental life is made up of *two kinds* of consciousness—the object consciousness and the subject consciousness. The first is the external world, or *Non-Ego;* the second is our *Ego*, or mind proper" (*Ibid.*, p. 370). Consciousness "includes our object states as well as our subject states. The object and subject are *both parts* of our being, as I conceive, and

hence we have a subject consciousness, which is in a special sense Mind (*the scope of mental science*), and an object consciousness in which all other sentient beings participate, and which gives us the extended and material universe" (*Ibid.*, 669). It is, of course, still kept in view (which constitutes the logical superiority of Subjective Idealism over Realism) that "the object consciousness, which we call Externality, is still a mode of self in the most comprehensive sense" (p. 378). "Object experience is still conscious experience, that is Mind" (p. 2). I have quoted at this length because the above passages seem to me an admirable statement of a representative type of Subjective Idealism.

The logic of the process seems to be as follows. It is recognised that all existence with which philosophy or anything else has to do must be known existence—that is, that all existence is for consciousness. If we examine this consciousness, we shall find it testifying to "two kinds of consciousness"—one, a series of sensations, emotions and ideas, &c., the other, objects determined by spatial relations. We have to recognise then two parts in consciousness, a subject part, mind more strictly speaking, and an object part, commonly called the external world or matter. But it must not be forgotten that this after all is a part of my own being, my consciousness. The subject swallows up the object. But this subject, again, "segregates" itself into "two antithetical halves," into "two parts," the subject and the object. Then again the object vanishes into the subject, and again the subject divides itself. And for ever the process is kept up. Now the point I wish to make is that consciousness is here used in two entirely different senses, and that the apparent plausibility of the argument rests upon their confusion. There is consciousness in the broad sense, consciousness which includes subject and object; and there is consciousness in the narrow sense, in which it is equivalent to "mind," "*Ego*," that is, to the series of conscious states. The whole validity of the argument rests, of course, upon the supposition that ultimately these two are just the same —that it is the individual consciousness, the "*Ego*," which differentiates itself into the "two kinds of consciousness," subject and object. If not, "mind," as well as "matter"—the series of psychical states or events which constitute the *Ego* and are "the scope of mental science," as well as that in which all "sentient beings participate"—is but an element *in* consciousness. If this be so, Subjective Idealism is abandoned and Absolute Idealism (to which I hardly need say this article has been constantly pointing) is assumed.

The essence of Subjective Idealism is that the subject consciousness or mind, which remains after the "object world has been subtracted," is that for which after all this object world exists. Were this not so—were it admitted that this subject, mind, and the object, matter, are both but *elements within*, and both exist only *for*, consciousness—we should be in the sphere of an eternal absolute consciousness, whose partial realisation both the individual "subject" and the "external world" are. And I wish to show that this is the only meaning of the facts of the case; that Subjective Idealism is but the bald statement of a contradiction.

This brief digression is for the purpose of showing that, to Subjective Idealism, the consciousness for which all exists is the consciousness which is called mind, *Ego*, "my being". The point which I wished to make was that this identification is self-contradictory, although it is absolutely necessary to this form of Idealism. I shall be brief here in order not to make a simple matter appear complicated. How can consciousness which gives rise to the "two kinds" of consciousness be identified with either of them? How can the consciousness which in its primary aspect exists in time as a series of psychical events or states be the consciousness for which a permanent world of spatially related objects, in which "all sentient beings participate," exists? How can the "mind" which is defined by way of "contrast," which exists after the object world has been "subtracted" be the mind which is the whole, of which subject and object are alike elements? To state that the mind, in the first instance, is but the remainder from the totality of conscious experience "minus the object world, and to state also that this object world is itself a part of mind,"—what is that but to state in terms a self-contradiction? Unless it be to state that this way of looking at mind, "in the first instance," is but a partial and unreal way of looking at it, and that mind in truth is the unity of subject and object, one of which cannot be subtracted from the other, because it has absolutely no existence without the other. Is it not a self-contradiction to declare that the "scope of mental science" is subject consciousness or mind, and at the same time to declare that "both subject and object are parts of our being," are but "two kinds" of consciousness? Surely Psychology ought to be the science of our whole being, and of the whole consciousness. But no words can make the contradiction clearer than the mere statement of it. The only possible hypothesis upon which to reconcile the two statements that mind is consciousness with the object world subtracted, and that it

is the whole of our conscious experience, including both subject and object world, is that the term Mind is used in two entirely different senses in the two cases. In the first it must be individual mind, or consciousness, and in the second it must be absolute mind or consciousness, for and in which alone the individual or subject consciousness and the external world or object consciousness exist and get their reality.

The root of the whole difficulty is this. It is the business of Psychology to take the whole of conscious experience for its scope. It is its business to determine within this whole what the nature of subject and object are. Now Subjective Idealism identifies at the outset, as may be seen in the passages quoted, subject with "Mind," "*Ego*," and object with "Matter," "*Non-Ego*," "External World," and then goes on to hold that the 'scope' of Psychology is the former only. In short, the psychological standpoint, according to which the nature of subject and object was to be determined from the nature of conscious experience, was abandoned at the outset. It is presumed that we already know what the "subject" is, and Psychology is confined to treatment of that. It is assumed that we know already what the 'object' is, and Psychology is defined by its elimination. This method, as psychology, has two vices. It is 'ontological,' for it sets up some external test to fix upon the nature of subject and object; and it is arbitrary, for it dogmatically presupposes the limitation of Psychology to a series of subjective states. It assumes that Psychology instead of being the criterion of all, has some outside criterion from which its own place and subject-matter is determined, and more specifically, *it assumes that the standpoint of Psychology is necessarily individual or subjective.* Why should we be told that the scope of Psychology is subject consciousness, and subject consciousness be defined as the totality of conscious experience *minus* the object world, unless there is presupposed a knowledge of what subject and object are? How different is the method of the true psychological standpoint! It shows how subject and object arise within conscious experience, and thereby develops the nature of consciousness. It shows it to be the unity of subject and object. It shows therefore that there cannot be "two kinds" of consciousness, one subject, the other object, but that all consciousness whether of "Mind," or of "Matter" is, *since* consciousness, the unity of subject and object. Consciousness may, and undoubtedly does, have two aspects—one aspect in which it appears as an individual, and another in which it appears

as an external world over against the individual. But there are not two kinds of consciousness, one of which may be subtracted from the whole and leave the other. They are but consciousness in one phase, and how it is that consciousness assumes this phase, how it is that this division into the individual and the external world arises for consciousness (in short, how consciousness in one stage appears as perception),—that is precisely the business of Psychology to determine. But it does not determine it by assuming at the outset that the subject is "me," and the object is the world. And if this be not assumed at the outset it certainly will not be reached at the conclusion. The conclusion will show that the distinction of consciousness into the individual and the world is but one form in which the *relation* of subject and object, which everywhere constitutes consciousness, appears. This brings us definitely to the relation of the individual and the universal consciousness.

III.

We have seen that the attempt to account for the origin of knowledge, at bottom, rests on the undoubted fact that the individual consciousness does become, but also that the only way to account for this becoming, without self-contradiction, is by the postulate of a universal consciousness. We have seen again that the truth at the bottom of subjective idealism is the undoubted fact that all existence is relative to our consciousness, but also that the only consistent meaning of this fact is that our consciousness as individual is itself relative to a universal consciousness. And now I am sure that my objector, for some time silent, will meet me with renewed vigour. He will turn one of these arguments against the other and say: 'After all, this consciousness for which all exists is your individual consciousness. The universal consciousness itself exists only for it. You may say indeed that this individual consciousness, which has now absorbed the universal again, shows the universal as necessary to its own existence, but this is only to fall into the contradiction which you have already urged against a similar view on the part of Subjective Idealism. Your objection in that case was that consciousness divided into subject consciousness and object consciousness, of which the former immediately absorbed the latter, and again subdivided itself into the subject and object consciousness. You objected that this was the express statement of a contradiction—the statement that the subject consciousness was and was not the whole of conscious ex-

perience. It was only as it was asserted to be the whole that any ground was found for subjective idealism; but only as it was regarded as a remainder left over from subtraction of the object world does it correspond to actual experience. Now you have yourself fallen into precisely this contradiction. You do but state that the individual consciousness is and is not the universal consciousness. Only so far as it is not, do you escape subjective idealism; only so far as it is, do you escape the thing-in-itself. If this universal consciousness is not for our individual consciousness, if it is not a part of our conscious experience, it is unknowable, a thing-in-itself. But if it be a part of our individual consciousness, then after all the individual consciousness is the ultimate. By your own argument you have no choice except between the acceptance of an unknowable unrelated reality or of subjective idealism.'

This objection amounts to the following disjunction: Either the universal consciousness is the individual and we have subjective idealism; or, it is something beyond the individual consciousness, and we have a thing-in-itself. Now this dilemma looks somewhat formidable, yet its statement shows that the objector has not yet put himself upon the psychological ground: there is something of the old 'ontological' man left in him yet, for it assumes that he has, prior to its determination by Psychology, an adequate idea of what 'individual' is and means. If he will take the psychological standpoint, he will see that the nature of the individual as well as of the universal must be determined within and through conscious experience. And if this is so, all ground for the disjunction falls away at once. This disjunction rests upon the supposition that the individual and the universal consciousness are something opposed to each other. If one were to assert that the meaning of the individual consciousness is that it is universal, the whole objection loses not only its ground but its meaning; it becomes nonsense. But I am not concerned just at present to state this; I am concerned only to point out that, if one starts with a presupposition regarding the nature of the individual consciousness, one is leaving the psychological standpoint. In forming the parallel between the position attributed to the writer and that of subjective idealism, the supposed objector was building wiser than perhaps he knew. The trouble with the latter view is that it supposes that consciousness may be divided into "two kinds," one subjective, the other objective; that it presupposes, at the start, the nature of subject and object. The fact of the case is that, since

consciousness is the unity of subject and object, there is no purely subjective or purely objective. So here. It is presupposed that there are "two kinds" of consciousness, one individual, the other universal. And the fact will be found to be, I imagine, that consciousness is the unity of the individual and the universal; that there is no purely individual or purely universal. So the disjunction made is meaningless. But however that may be, at all events it leaves the psychological basis, for it assumes that the nature of the individual is already known.

This has been said that it may be borne in mind from the outset that Psychology must determine within consciousness the nature of the individual and the universal consciousness, thereby determining at once their place within experience, and explicating the nature of consciousness itself. And this, stated in plain terms, means simply that, since consciousness does show the origin of individual and universal consciousness *within itself*, consciousness is therefore both universal and individual. *How* this is, the present article, of course, does not undertake to say. Its more modest function is simply to point out that it is the business of psychology to show the nature of the individual and the universal and of the relation existing between them. These must not be presupposed, and then imported bodily to determine the nature of psychologic experience. There has now been rendered explicit what was implied concerning the psychological standpoint from the first, *viz.*, that it is a universal standpoint. If the nature of all objects of philosophical inquiry is to be determined from fixing their place within conscious experience, then there is no criterion outside of or beyond or behind just consciousness itself. To adopt the psychological standpoint is to assume that consciousness itself is the only possible absolute. And this is tacitly assumed all the while by subjective idealism. The most obvious objection to subjective idealism is, of course, that it presupposes that, if "mind were to become extinct, the annihilation of matter, space, time would result". And the equally obvious reply of subjective idealism is: "My conception of the universe even though death may have overtaken all its inhabitants, would not be an independent reality, I should merely take on the object-consciousness of a supposed mind then present" (Bain, p. 682). In short, the reality of the external world, though I should imagine all finite minds destroyed, would be that I cannot imagine consciousness destroyed. As soon as I imagine an external world, I imagine a consciousness in relation to which it exists. One may put the objection

from a side which gets added force with every advance of physical science. The simplest physiology teaches that all our sensations originate from bodily states—that they are conditioned upon a nervous organism. The science of biology teaches that this nervous organism is not ultimate but had its origin ; that its origin lies back in indefinite time, and that as it now exists it is a result of an almost infinite series of processes ; all these events, through no one knows how much time, having been precedent to your and my mind, and being the condition of their existence. Now is all this an illusion, as it must be, if its only existence is for a consciousness which is " but a transition from one state to another "? The usual answer to this argument is that it is an *ignoratio elenchi :* that it has presupposed a consciousness for which these events existed ; and that they have no meaning except when stated in terms of consciousness. This answer I have no call to rebut. But it must be pointed out that this is to suppose the individual consciousness capable of transcending itself and assuming a universal standpoint —a standpoint whence it can see its own becoming, as individual. It is this *implication* of the universal nature of the individual consciousness which has constituted the strength of English philosophy ; it is its lack of *explication* which has constituted its weakness. Subjective idealism has " admitted of no answer and produced no conviction " because of just this confusion. That which has admitted of no answer is the existence of all *for* consciousness ; that which has produced no conviction is the existence of all for our consciousness as merely individual. English philosophy can assume its rightful position only when it has become fully aware of its own presuppositions ; only when it has become conscious of that which constitutes its essential characteristic. It must see that the psychological standpoint is necessarily a universal standpoint and consciousness necessarily the only absolute, before it can go on to develop the nature of consciousness and of experience. It must see that the individual consciousness, the consciousness which is but " transition," but a process of becoming, which, in its primary aspect, has to be defined by way of " contrast," which is but a " part " of conscious experience, nevertheless is when viewed in its finality, in a perfectly concrete way, the universal consciousness, the consciousness which has never become and which *is* the totality ; and that it is only because the individual consciousness is, in its ultimate reality, the universal consciousness that it affords any basis whatever for philosophy.

The case stands thus: We are to determine the nature of everything, subject and object, individual and universal, as it is found within conscious experience. Conscious experience testifies, in the primary aspect, my individual self is a "transition," is a process of becoming. But it testifies also that this individual self is conscious of the transition, that it knows the process by which it has become. In short, the individual self can take the universal self as its standpoint, and thence know its own origin. In so doing, it knows that it has its origin in processes which exist for the universal self, and that therefore the universal self never has become. Consciousness testifies that consciousness is a result, but that it is the result of consciousness. Consciousness is the self-related. Stated from the positive side, consciousness has shown that it involves *within* itself a process of becoming, and that this process becomes conscious of itself. This process is the individual consciousness; but, since it is conscious of itself, it is consciousness of the universal consciousness. All consciousness, in short, is self-consciousness, and the self is the universal consciousness, for which all process is and which, therefore, always is. The individual consciousness is but the process of realisation of the universal consciousness through itself. Looked at as process, as realising, it is individual consciousness; looked at as produced or realised, as conscious of the process, that is, of itself, it is universal consciousness.

It must not be forgotten that the object of this paper is simply to develop the presuppositions which have always been latent or implicit in the psychological standpoint. What has been said in the way of positive result has been said, therefore, only as it seemed necessary to develop the meaning of the standpoint. It must also be remembered that it is the work of Psychology itself to determine the exact and concrete relations of subject and object, individual and universal within consciousness. What has been said here, if said only for the development of the standpoint, is therefore exceedingly formal. To some of the more concrete problems I hope to be able to return at another time.

II.—MEISTER ECKEHART, THE MYSTIC.

By Prof. Karl Pearson.

Diz ist Meister Eckehart
Dem Got nie niht verbarc.
—*Old Scribe.*

Students of mediæval philosophy must often have been struck by the unexpected occurrence of phases of thought, even in Christian writers, which are utterly out of keeping with the framework of Scholastic theology within which they are usually mounted. M. Renan has done excellent service in showing how many of these eccentricities may be attributed to the influence—the fascination—of the arch-heretic Averroes. There is however one field of Averroistic influence to which M. Renan has only referred without entering on any lengthened discussion: this is the extremely interesting, but undoubtedly obscure subject of fourteenth century mysticism. I purpose in the following paper to present the English reader with a slight sketch of the philosophical (or rather theosophical) system of Meister Eckehart, the Mystic,[1] who may be accepted as the chief exponent of the school. There are two points which ought peculiarly to attract the student of modern philosophy to Eckehart: the first lies in a possible (and by no means improbable) influence which his ideas may have exercised over Kant; the second consists in a peculiar spiritual relation to Spinoza. This latter can be in no way due to direct contact, but has to be sought in a common spiritual ancestry. Nor is this link in the past by any means difficult to find. The parallelism of ideas in the writings of Averroes and Maimonides has led some authors hastily to conclude an adoption by the latter of the ideas of the former. The real relation is a like education under the influences of the same Arabian school. On the one hand Maimonides was the spiritual

[1] The Germans possess an excellent book on Eckehart from the pen of Prof. Lasson, but, for the purposes of this essay, I have made use only of Eckehart's own writings in the second volume of Pfeiffer's *Deutsche Mystiker*. That my results differ so often from those of Prof. Lasson is due principally to his strong Hegelian standpoint; at the same time I have to acknowledge the debt which I owe, not so much to his book, as to the charm of his personal teaching. English readers will find a short account of Eckehart due to Prof. Lasson in Ueberweg's *History of Philosophy*.

progenitor of Spinoza; on the other Averroes was the master from whom fourteenth century German mysticism drew its most striking ideas. During this century Averroism was the ruling philosophical system at both the leading European universities,—at Paris and at Oxford. It was the result of Averroistic teaching which produced two of the most characteristic thinkers of the age. The theologico-philosophical system which John Wyclif, the Oxford professor, develops in his *Trialogus* is unintelligible without a knowledge of Averroistic ideas. The mysticism of Eckehart, the far-famed Paris lecturer, owes its leading characteristics to a like source. In 1317 the then Bishop of Strasburg condemned Eckehart's doctrines; in 1327 the Archbishop and Inquisitors of Cologne renewed the condemnation, and Eckehart recanted; in 1329, a year after Eckehart's death, a papal bull cited 28 theses of the master and rejected them as heretical. What a parallel does this offer to the proceedings of the hierarchy against Wyclif, culminating in his posthumous condemnation by the Council of Constance! Yet what more natural, when both men were deeply influenced by the ideas of the arch-heretic Averroes, whom later Christian art was to place alongside Judas and Mahomet in the darkest shades of hell?[1]

Wyclif and Eckehart each in their individual fashion represent the Averroistic ideas under the garb of Christian Scholasticism; in strange contrast with these thinkers we find in Spinoza the like ideas treated with a rationalism, which, however, has not yet quite freed itself from the idealistic influence of Hebrew theosophy. The contrast is one possibly as interesting and instructive as could well be found in the whole history of the development of human thought.

Before entering upon a discussion of Eckehart's ideas, it may not be out of place to recall those features of Averroism with which we shall be principally concerned, and at the same time to prove by citations from a remarkable tractate of an anonymous writer of the 14th century the direct connexion of Averroistic thought with German mysticism.

Aristotle in his *De Anima* (III. v. 1) distinguishes in man a double form of reason, the active and the passive: the first is separated from the body, eternal, and passionless; the

[1] A further link between Eckehart and Wyclif is perhaps to be found in the Pseudo-Dionysius with his commentator Grossetête. Eckehart was acquainted with "Lincolniensis" (*Deutsche Mystiker*, ii. 363), whom Wyclif regarded as peculiarly his own precursor.

second begins and ends with the body and shares all its varied states. Unfortunately Aristotle has nowhere clearly explained what he understands by the relationship of these two reasons, and, as Zeller remarks (*Die Philos. der Griechen*, ii. Abth., 2. Theil, p. 572), it is not possible to reconcile his various statements by any consistent theory. Alexander of Aphrodisias endeavoured to obtain such a consistent theory by seeking the active reason not in the human soul, but in the divine spirit. This view, although probably not the interpretation Aristotle would have given of his own statements, is yet eagerly adopted by the Arabian commentators, and the comparatively insignificant distinction made by Aristotle becomes with Averroes the basis of all that is original in his ideas.

While Alexander identifies the active reason or intellect, which brings the images (*φαντάσματα*) before the passive intellect, with the divine spirit, Averroes looks upon it as emanating from the last celestial intelligence. He considers, however, with Alexander that it is possible for the human or passive intellect to unite itself to the purely active intellect. This union takes place, this perfection or blessedness is attained, by long study, deep thought and renunciation of material pleasures. This process, consisting in the widening of human knowledge, is the *religion* of the philosopher. For what worthier cult can man offer to God than the knowledge of his works, through which alone he can attain to a knowledge of God himself in the fulness of his essence ? [1]

But to recognise fully what is original in Eckehart we must examine Averroes's views somewhat closer.

Averroes holds that things perceived by the understanding (*intelligibilia*) stand in the same relation to the material intellect (passive reason) as things perceived by sensation bear to the faculty of sensation. This faculty is purely receptive, and pure receptivity belongs also to the material intellect. Its nature is only *in potentia*,—it is a capacity for intellectual perception. At this point Averroes introduces a statement which disagrees with Aristotle and brings obscurity into his theory ; he holds that, as this passive reason exists only *in potentia*, it can neither come into being nor perish. Alexander's view, that the material intellect is perishable, is described as utterly false.[2] This statement was probably

[1] Cp. *Drei Abhandlungen über die Conjunction des separaten Intellects mit dem Menschen von Averroes*, herausgegeben von T. Hercz, Berlin, 1869.

[2] *Ibid.*, p. 23.

introduced to quiet the scruples of the theologians, which would be excited by anything appearing to destroy individual immortality. The like inconsistency recurs with Eckehart. Three premisses of Alexander are stated by Averroes to prove how in the course of time it is possible for the material to attain perfection through the separate intellect. In accordance with these premisses (which are based on the analogy mentioned above of the intellective and sensitive faculties) we ought to conclude that some portion of mankind can really contemplate the separate intellect, and these men are they who by the speculative sciences have perfected themselves. Perfection of the spirit is thus to be obtained by Knowledge, nor can it ever again be lost. Often however it comes only in the moment of death, since it is opposed to bodily (material) perfection.

The separate intellect (active reason) exercises two activities. The one, because it is separate, consists in self-contemplation or self-perception. This self-perception is the manner of all separate intellects, because it is characteristic of them that the intellectual and the intelligible are absolutely one. The second activity is the perception of the *intelligibilia* which are in the material intellect, that is, the transition of the material intellect from possibility to actuality. Thus the active intellect attaches itself to man and is at the same time his *form*, and the man becomes by means of it active, that is, he thinks. These statements can hardly be said to be free from obscurity, but they receive considerable light from Eckehart, who identifies the active reason with the Deity, and explains the life of the universe by his two activities: self-contemplation, wherein to think is to create or act, and human contemplation which is the "bearing of the Son".

The question now arises as to what follows upon the complete union of the separate and individual intellects. What happens to the man for whom there no longer remains any *intelligibile in potentia* to convert into an *intelligibile in actu?* Such an individual intellect then becomes in character like to the separate intellect; its nature becomes pure activity; its self-consciousness is like that of the separate intellect, in which existence is identified with its purpose —uninterrupted activity. This statement Averroes holds to be the most important that can be made concerning the intellect.

While Eckehart himself makes no direct reference to Averroes, a remarkable tractate written by one of his school does not hesitate to cite the Arabian commentator as an

authority.[1] A short sketch of the views contained in this tractate will serve to link more clearly the preceding statement of Averroes's theory with our sketch of Eckehart's theosophy.

The writer quotes Meister Eckehart to the effect that when two things are united one must suffer and the other act. For this reason human understanding must suffer the "moulding of God" (*uberformvnge Gotz*). Since God's existence is his activity, the blessedness of this union can only arise from the human understanding remaining in a purely passive, receptive state. Only a spirit free from all working of its own can suffer the "reasonable working" of God (*daz vernunftige werch Gotz*). The writer, after describing the soul as a spark of the divine spirit, declares that the union of this spark with God is possible, and that the process of union is "God confessing himself, God loving himself, God using himself"—a phraseology which is characteristic of Eckehart and suggestive of Spinoza. After these theosophical considerations, the tractate passes to the more philosophical side of the subject. There are two kinds of reason, an active reason and a potential reason (*ein wurchende vernunft* and *ein moglich vernunft*). The latter is possessed by the spirit at the instant when it reaches the body. If the potential reason would simply subject itself to the active reason, the man would be as blessed in this world as in the eternal life, for "the blessedness of man consists in his recognition of his own existence under the form of the active reason". That is, it consists in contemplation of the individual essence in its connexion with and origin in the universal reason. The complete capacity for understanding all things which this implies is not possible to the potential reason. The potential reason has only the capacity for receiving the moulding of the active reason.

There are certain beings whose existence is their activity and whose activity is their understanding. In other words, to be, to act and to think are one and the same process with them—(their *wesen*, *wurken* and *verstan* are one). These beings are termed intelligences and are nobler than the angels; they flow reasonably (*vernunftichlich*) and incessantly from and to God, the uncreated substance. They belong, as it were, to the divine flow of thought (which is at

[1] *Philosophischer Tractat von der wirklichen und möglichen Vernunft aus dem vierzehnten Jahrhundert.* This was printed by B. J. Docen in his *Miscellaneen zur Geschichte der teutschen Literatur,* München, 1809: i. s. 138.

the same time active creation) and so are not substances like the angels. Such an intelligence is the active reason (pp. 146-7). As proof that this particular intelligence is no substance, but its existence is its activity, Averroes's commentary on *De Anima* iii. is quoted as authority. The potential reason is filled with images (*bilde*) which are for it externality and temporality. So soon as by the grace of God the potential reason is freed from these images, it is supplanted or moulded by the active reason. Whereas the potential reason takes things only from the senses as they appear to exist, the active reason goes to the origin of things and sees them as they are in reality—that is, in God. But our writer is again hampered by the current theological conceptions, although he twists them to his own theories: if the active reason is ever present ready to be united to the potential reason, when once it is freed of the images, must it not also be present in hell? The answer must necessarily be affirmative; but hell in truth is not what the vulgar (*grobe lvte*) believe it—fire; the agony of hell consists in the sufferer's unconsciousness of his own reason (*irre aigen vernunft*); that is, he cannot contemplate himself as he appears to the active reason, or as he exists in the divine mind. This spiritual pain is the greatest of all pains. Hell is thus identified with the absence of the higher insight. Finally we may note that the author of the tractate seems uncertain whether the potential reason can ever arrive at perfect union with the active reason before it is separated from all material things.

Distorted as are the ideas of Averroes in this work, we cannot doubt that it is those ideas which are influencing its author. A far more complete attempt to reconcile Averroism with Christian theology is to be found in the system of Eckehart, to which we now proceed. Many difficulties and obscurities will arise, but some elucidation they will undoubtedly receive from a brief examination of the relationship of Averroes to mediæval mysticism.

We shall be the better able to enter into Meister Eckehart's system, if we first note a few leading characteristics of his intellectual standpoint. Running throughout his writings two strangely different theosophical currents may be discerned—two currents which he fails entirely to harmonise, and which account, for the most part, for those inconsistencies wherein he abounds. On the one hand, his mental predilection is towards a pantheistic idealism; on the other, his heart makes him a gospel, his education a Scholastic, Christian. He speaks of God almost in the

terms of Spinoza, and describes the phenomenal world in the language of Kant ; but his theory of the *esse intelligibile* is identical with Wyclif's, while he states the doctrines of renunciation and of the futility of human knowledge in the form at least of primitive Christianity. Is it to be wondered at that the deepest thinker among the German mystics is the least intelligible? He is the focus from which spread the ever-diverging rays of many mediæval and modern philosophical systems. For our purpose it is first necessary to obtain some conception of the relation which Eckehart supposed to exist between the phenomenal world and God. According to our philosopher the active reason (*diu wirkende vernunft*) receives the impressions from external objects (*ûzewendikeit*) and places them before the passive reason (*diu lîdende vernunft*). These impressions or perceptions as presented by the active reason are formulated in space and time, have a 'here and a now' (*hie unde nû*). Man's knowledge of objects in the ordinary sense is obtained solely by means of these impressions (*bilde*), he perceives things only in time and space. (Pfeiffer, *Deutsche Mystiker*, ii., 17, 19, 143, &c.) Of an entirely different character from human knowledge is the divine knowledge. While the active reason must separate its perceptions in time and space, the Deity comprehends all things independently of these perceptional frameworks. The divine mind does not pass from one object to another, like the human mind, which can only concentrate itself on one object at a time to the exclusion of all others. It grasps all things in one instant and in one point (*alle mitenander in eime blicke und in eime punte.—Ib.*, 20; cp. 14-15). Shortly, in the language of Kant, while the human intellect reaches only the world of sense, the divine is busied with the *Dinge an sich*. This higher knowledge is of course absolutely unintelligible to the human reason. "All the truth which any master ever taught with his own reason and understanding, or ever can teach till the last day, will not in the least explain this knowledge and its nature" (*Ib.*, 10). Shortly, the *Dinge an sich* form the limit of the human understanding.[1] But, just as Kant causes the practical reason to transcend this limit, so Meister Eckehart allows a mystical revelation or implantation of this higher knowledge; this process he terms the eternal birth (*diu êwige geburt*). The soul ceasing to see things under the forms of time and space grasps them as they exist in the mind of God, and

[1] Cp. *Kritik der reinen Vernunft*, Elementarlehre, ii. Th., 1 Abth., 2 Buch., 3 Hauptst.

finds therein the ultimate truth, the *reality*, which cannot be reached in the phenomenal world (*Ib.*, 12). The world as reality is thus the world as it exists in God's perception; but, since God's will and its production are absolutely identical (there being no distinction between the moulding and the moulded—*entgiezunge und entgozzenheit*), we arrive at the result that the world as reality is the world as *will*. Thus both Eckehart and Kant find it necessary to transcend the 'limit of the human understanding'; both find reality in the world as will.[1] The critical philosopher is desirous of finding an absolute basis for morality in the supersensuous, and accordingly links phenomena and the *Dinge an sich* by a transcendental causality, which somehow bridges the gulf. The fourteenth century mystic, desirous of raising the idea of God from the contradictions of a sensuous existence, places the Deity entirely beyond the field of ordinary human reason. In order to restore God again to man, he postulates a transcendental knowledge; in order to show God as ultimate cause even of the phenomenal, he is reduced to interpreting in a remarkable manner the chief Christian dogma. We shall see the meaning of this more clearly if we examine more closely the conception Eckehart had formed of God and his relation to the *Dinge an sich* (*vorgêndiu bilde*, or 'prototypes' as we may perhaps translate the expression).

Things-in-themselves are things as they exist free from space and time in God's perception. (*D. M.*, ii. 325, &c.) Thus the prototype (*vorgêndez bild*) of Eckehart corresponds to the *esse intelligibile* of Wyclif, who in like manner identifies God's conception and his causation (*Omne quod habet esse intelligibile, est in Deo*, and *Deus est æque intellectivus, ut est causativus, &c. Trialogus*, ed. Lechler, pp. 46-48.).[2] This form in God is evidently quite independent of creature-existence and not bound by time or space, cannot be said to have been created, cannot be said to come into or go out of existence. The form *is* in an 'eternal now' (*daz êwige nû*). To describe a temporal creation of the world is folly to the intelligent man; Moses only made use of such a description to aid the ignorant. God creates all things in an 'ever-present now' (*in eime gegenwürtigen nû. D. M.*, ii. 266, and

[1] This principle, usually identified with the *Grober Philosoph*, is clearly expressed in the *Kritik der praktischen Vernunft*, i. Theil., 1 B., 3 Hauptst. The will however with Kant and Eckehart is different in character.

[2] This is absolutely identical with Spinoza, *Ethica*, i. 16, *Omnia quæ sub intellectum infinitum cadere possunt, necessario sequi debent.* Cp. Prop. 17, Scholium.

7).[1] The soul then which has attained to the higher knowledge grasps things in an 'eternal now,' or, as we may express it, *sub specie æternitatis*. We can now grasp more clearly Eckehart's pantheistic idealism. By placing all reality in the supersensuous and identifying that supersensuous reality with God, he avoids many of the contradictions of pantheistic materialism. God is the substance of all things (*Ib.*, 163), and in all things, but as the reality of things has not existence in space or time there can be no question as to how the unchangeable can exist in the phenomenal (*Ib.*, 389). Since all things are what they are owing to the peculiarity of God's nature, it follows that the individual though a work of God is yet an essential element of God's nature, and may be looked upon as productive with God of all being (*Ib.*, 581). The soul then which has attained the higher knowledge sees itself in its reality as an element of the divine nature; it obtains a clear perception of its own uncreated form (or *vorgêndez bild*) which is in reality its life; it becomes one with God. The will of the individual henceforth is identical with the will of God: and the Holy Ghost receives his essence or proceeds from the individual as from God (*dâ enpfâhet der Heilig Geist sîn wesen unde sîn werk unde sîn werden von mir als von Gote. Ib.*, 55). The soul stands to God in precisely the same relation as Christ does; nay, it attains to "the essence, and the nature, and the substance, and the wisdom, and the joy, and all that God has" (*Ib.*, 41, 204). "Have I attained this blessedness, so are all things in me and in God (*secundum esse intelligibile ?*), and where I am, there is God" (*Ib.*, 32). From this it follows that the 'higher knowledge' of the soul and God's knowledge are one.[2] It is scarcely necessary to remark that Eckehart defines this state of 'higher knowledge' as blessedness. Thus both Spinoza and Eckehart base their beatitude on the knowledge of God, but in how

[1] Cp. Wyclif's *Omne quod fuit vel erit, est*, which is based upon the conception that things *secundum esse intelligibile* are ever in the time- and space-free cognition of the Deity. *Trialogus*, ed. Lechler, p. 53.

[2] The whole of this may be most instructively compared with Spinoza's *Ethica*, v. Prop. 22: In Deo tamen datur necessario idea (Eckehart's *vorgêndez bild*), quæ hujus et illius corporis humani essentiam (Eckehart's *ûzewendiges ding*) sub æternitatis specie exprimit.

Prop. 23: Mens humana non potest cum corpore absolute destrui; sed ejus aliquid remanet, quod æternum est (the *vorgêndez bild* exists in an *êwige nû*).

Prop. 29: Quicquid mens sub specie æternitatis intelligit, id ex eo non intelligit, quod corporis præsentem actualem existentiam concipit; sed ex eo, quod corporis essentiam concipit sub specie æternitatis. (The

different a sense! Eckehart's knowledge is a kind of transcendental instinct of the soul steeped in religious emotion; Spinoza's knowledge is the result of an adequate cognition of the essence of things—it is a purely intellectual (non-transcendental) process. A striking corollary to this similarity may be found in the two philosophers' doctrines of God's love. The love of the mind towards God, writes Spinoza (*Ethica* v. 36 and Cor.), is part of the love wherewith God loves himself, and conversely God in so far as he loves himself, loves mankind. The love of God towards men, says Meister Eckehart, is a portion of the love with which he loves himself (*D. M.*, ii. 145-6, 180).

In both cases God's self-love is intellectual—it arises from the contemplation of his own perfection.[1] Eckehart perhaps even more strongly than Spinoza endeavours to free God from anthropomorphical qualities. His God, placed in the sphere of *Dinge an sich*, is freed from extension, but this by no means satisfies him—God must have no human attributes; he is not lovable, because that is a sensuous quality—he is to be loved because he is not lovable. Nor does he possess any of the spiritual powers such as men speak of in the phenomenal world—nothing like to human will, memory or intellect; in this sense he is not a spirit. He is nothing that the human understanding can approach. One attribute only can be asserted of him and of him only—namely, unity. Otherwise he may be termed the nothing of nothing, and existing in nothing. Alone in him the prototypes or uncreated forms *(vorgêndiu bilde)* can be said to exist, but these are beyond the human understanding and can only be reached by the higher transcendental knowledge. "How shall I love God then? Thou shalt love him as he is, a non-god, a non-spirit, a non-person, a non-form; more, as he is an absolute pure clear *one.*" *(Wie sol ich in denne minnen? Dû solt in minnen als er ist, ein nihtgot, ein nihtgeist, ein nihtpersône, ein nihtbild: mêr als er ein lûter pûr klar ein ist, &c.*

'higher knowledge' of the soul is concerned with the *vorgêndez bild* and not with the phenomenal world.)

Prop. 30: Mens nostra, quatenus se et corpus sub æternitatis specie cognoscit, eatenus Dei cognitionem necessario habet, scitque se in Deo esse et per Deum concipi—(a proposition agreeing entirely with Eckehart's).

After this it is hard to deny a link somewhere between these two philosophers!

[1] Wyclif, *Trialogus*, 56: *Cognoscit et amat se ipsum.* Wyclif's whole theory of the divine intellect as the sphere of reality, and cognition by God as the test of possible existence, has strong analogy to Eckehart.

Ib., 320 ; cp. 319, 500, 506, &c.). Into this inconceivable nothing the soul finds its highest beatitude in sinking. How is this to be accomplished ? What is the phenomenal world, and how can the passage be made to the world of reality ? What is the price to be paid for this surpassing joy ? These are the questions which now rise before us and which Eckehart endeavours to solve in his theory of renunciation.

All important is it first to note how the philosopher deduces the phenomenal from the real : the externality (*ûzewendikeit*) from the prototypes (*diu vorgêndiu bilde*). The solution of this apparent impossibility is found in a singular interpretation of the Christian mystery—' The Word became flesh ' ; the idea in God passing into phenomenal being is the incarnation of the divine λόγος. God's self-introspection, his " speaking " of the ideas in him produces the phenomenal world. " What is God's speaking ? The Father regards himself with a pure cognition, and looks into the pure oneness of his own essence. Therein he perceives the forms of all creation (*i.e.*, *diu vorgêndiu bilde*), then he speaks himself. The Word is pure (self-) cognition, and that is the Son. God speaking is God giving birth." The real world in the divine mind is " non-natured nature " (*diu ungenâtûrte nâtûre*) ; the sensuous world which arises from this by God's self-introspection is " natured nature " (*diu genâtûrte nâtûre*).[1] In the former we find only the Father, in the latter we first recognise the Son (*D. M.*, ii., 591, 537, 250.) Of course this process of " speaking the word " or giving birth to the Son is not temporal but in an eternal now, but we had better let Eckehart speak for himself :—" Of necessity God must work all his works. God is ever working in one eternal now and his working is giving birth to his Son ; he bears him at every instant. From this birth all things proceed and God has such joy therein, that he consumes all his power in giving birth (*daz er alle sîne maht in ir verzert*). God bears himself out of himself into himself ; the more perfect the birth, the more is born. I say : God is at all times one, he takes cognition of nothing beyond himself. Yet God, in taking cognition of himself, must take cognition of all creatures. God bears himself ever in his Son ; in him he speaks all things " (*Ib.*, 254). Eckehart in identifying God's self-introspection with the birth of the Son, and the " phenomenalising " of the real has rendered it extremely difficult to reconcile this

[1] These are in close agreement with Spinoza's *natura naturans* and *natura naturata*. Cp. *Ethica* i., Prop. 29, Schol.

divine process in the *êwige nû* with the historical fact of Christianity. The difficulty is still further increased when we remember that the converse process by which the individual soul passes from the phenomenal to the higher or divine knowledge is also termed by Eckehart "God bearing the Son". The difficulty is lightened, though not removed, by uniting the two processes. The soul may be compared to a mirror which reflects the light of the sun back to the sun. In God's self-introspection the real is "phenomenalised" (as the light passes from the sun to the mirror); but the soul in its higher knowledge passes again back to God, the phenomenal is realised (as the light is reflected back to the sun). The whole process is divine—"God bears himself out of himself into himself" (*Ib.*, 180-181). Logically, the process ought to occur with every conscious individual, for all have a like phenomenal existence. In order, however, to save at least the moral, if not the historical, side of Christianity, Eckehart causes only certain souls to attain the higher knowledge; the Son is only born in certain individuals destined for salvation. Thus Eckehart's phenomenology is shattered upon his practical theology; it is but the recurrence of an old truth, that all forms of pantheism (idealistic or materialistic) are inconsistent with the assertion of an absolute morality as fundamental principle of the world. The pantheist must boldly proclaim that morality is the creation of humanity, not humanity the outcome of any moral causality.[1]

Let us now observe how the soul is to pass from the world of phenomena to the world of reality. So long as the active reason continues to present external objects to the soul, the soul cannot possibly grasp those objects *sub æternitatis specie*. The human understanding which can only perceive things in time and space is useless in this matter, nay, it is even harmful; the soul must try to attain absolute ignorance and darkness (*ein dunsternüsse und ein unwizzen*, *D. M.*, ii. 26). Eckehart's contempt for the creature-intellect is almost on a par with Tertullian's and is in marked contrast with the fashion in which Gautama, Maimonides and Spinoza make it the guiding star through renunciation to beatitude. The first step to the eternal birth (*êwige gebûrt*) is the total renunciation of creature-perception and creature-reason. The soul must pass through a period of absolute unconsciousness as to the phenomenal world; all its powers

[1] That the world was created for the moral perfecting of mankind is a dogma alike with Kant and Averroes (*Drei Abhandlungen*, p. 63). It has been wisely repudiated by Spinoza and Maimonides.

must be concentrated on one object, the mystical contemplation of the supersensuous deity,—the ' nothing of nothing,' of which the soul, if it seeks for true union cannot and *must* not form any idea (*Ib.*, 13-15). Not by an intellectual development, but by sheer passivity, by waiting for the transcendental action of God can the soul attain the higher knowledge, pass through the eternal birth. This intellectual nihilism, this ignorance, is not a fault, but the highest perfection; it is the only step the mind can take towards its union with God (*Ib.*, 16). The soul must so far as in it lies, separate itself from the phenomenal world, renounce all sensuous action, even cease to think under the old forms. Then, when all the powers of the soul are withdrawn from their works and conceptions (*von allen irn werken und bilden*), when all creature-emotions are discarded, God will speak his word, the Son will be born in the soul (*Ib.*, 6-9). This renunciation of all sensational existence (*alle ûzewendikeit der creaturen*) is an absolutely necessary prelude to the re-birth (*êwige gebûrt*, *Ib.*, 14). Memory, understanding, will, sensation, must be thrown aside; the soul must free itself from here and from now, from matter and from manifoldness (*lîplichkeit unde manicvaltikeit*). Poor in spirit and having nothing, willing nothing and knowing nothing, even renouncing all outward religious works and observances, the soul awaits the coming of God (*Ib.*, 24-25, 143, 296, 309, 280). Then arrives the instant when, as by a transcendental process the higher knowledge is conveyed to the soul, it attains its freedom by union with God. Henceforth God takes the place of the active reason, and is the source whence the passive reason draws its conceptions. The soul is no longer bound by matter and time; it has transcended these limits and grasped the reality beyond. Everywhere the soul sees God, as one who has long gazed on the sun sees it in whatever direction he turns his glance (*Ib.*, 19, 28-29). Such is the beatitude which follows the re-birth (*êwige gebûrt*). "Holy and all holy are they, who are thus placed in the eternal now beyond time and place and form and matter, unmoved by body and by pain and by riches and by poverty" (*Ib.*, 75). Strange is this emotional Nirvāna of the German mystic, though it is a religious phenomenon not unknown to the psychologist (or often fitter study for the physiologist). This emotional Nirvāna, or seclusion (*Abgeschiedenheit*, *Ib.*, 486-7) as Eckehart calls it, is pronounced to have exactly the same results as the intellectual beatitude of Gautama and Spinoza. The soul has returned to the state

in which it was before entering the phenomenal world; it has recognised itself as idea in God and thrown off all creature-attributes (*crêatûrlichkeit*), the remaining in which is what Eckehart understands by hell; it sees everything *sub specie æternitatis*. Secluded from men, free from all external objects, from all chance, distraction, trouble, it sees only reality. To all sensuous matters it is indifferent. "Is it sick? It is as fain sick as sound; as fain sound as sick. Should a friend die? In the name of God. Is an eye knocked out? In the name of God." It is complete submission to the will of God, absolute indifferentism to heaven or hell, if they but come as the result of that will (*Ib.*, 59-60, 203, &c.). This is the state of grace wherein no joyous thing gives pleasure and no painful thing can bring sadness. It is the extreme to which Christian asceticism—Christian renunciation of the world of sense—can well be pushed.[1]

Putting aside the antinomy between Eckehart's phenomenology and practical theology, let us endeavour to see the exact meaning of his theory of renunciation. He asserts that it is possible by a certain transcendental process to attain a "higher knowledge"; that this higher knowledge consists of an union with God, whereby the individual soul is able to recognise and thus absolutely submit to the will of God. The will and conception of God are identical. His conceptions are the prototypes (*vorgêndiu bilde*) or reality. Hence we might well interpret Eckehart's mystical higher knowledge to refer to a knowledge of the reality which exists behind the phenomenal, and consequently the submission of the individual will to the laws of that reality. Such a theory possesses a certain degree of logical consistency and is strikingly similar to Spinoza's doctrine of the beatitude which flows from the higher cognition of God. Unluckily, Spinoza's cognition leads to joy and peace in this world, while Eckehart's produces only a pure indifferentism. Still more striking is the contrast when we examine the methods by which the cognition is supposed to be attained. Spinoza's is only to be reached by a renunciation of obscure ideas, by a casting forth of blind passion, by a laborious intellectual process. Eckehart declares, on the other hand, that all knowledge of reality is only to be gained by a transcendental act of the divine will; the act itself must occur during an emotional trance, wherein the mind endeavours to free itself from all external impressions, to disregard

[1] Meister Eckehart even goes so far on one occasion as to assert that pain ought to be received, not only willingly and joyously, but even *eagerly!* (*D. M.*, ii. 599.)

the action of all human faculties. Seclusion from mankind, renunciation of all sensuous pleasure, the rejection of all human knowledge and all human means of investigating truth are the preparations for the trance and the consequent eternal birth (*êwige gebûrt*). Physiologically there can be small doubt that such overwrought emotions as this trance denotes cannot be conducive of physical health.[1] To this, of course the mystic may reply that health is only a secondary consideration in matters of religious welfare. A greater evil than that of danger to health is the social danger which may arise from ignorant fanatics, who suppose themselves to have attained the "higher knowledge" by divine inspiration. *They* are acquainted with absolute truth and are acting according to the will of God. More than once in the world's history the cry has gone up from such men that all human knowledge is vain, and the populace believing them have destroyed the weapons of intellect and checked for a time human progress. What test have we, when once we discard reason and appeal to emotion, of the truth of our own or others' assertions? To borrow the language of theology, who shall be sure that God and not the Devil has been born afresh into the soul? Harmless perhaps to the educated, whom it calls upon to renounce their knowledge, Eckehart's doctrine becomes in the hands of the ignorant a most dangerous weapon. In the place of laborious toil, by which truth alone can be won, it allows the individual consciousness to claim inspired insight; the emotions of the individual alone tell him whether he is in possession of the "higher knowledge," and there ceases to be a standard of truth outside individual caprice. Brilliant as are portions of Eckehart's phenomenology, and powerful as his language often is when expatiating on the goal of his practical theology, there hangs over the whole a strangely oppressive atmosphere of possible fanaticism which warns the thinker against trusting in any such version of Christianity,[2] in any such perversion of the ideas of Averroes.

[1] That great religious excitement might produce the desired trance can hardly be doubted. The mystics seem at least to have been acquainted with such ecstatical phases. Cp. the curious tale of *Swester Katrei Meister Ekehartes Tohter* (*D. M.*, ii. 465). Numerous instances occur also in the Life of Tauler (English trans. by Winkworth, 1857).

[2] On the effects of an extreme form of 'rebirth' under the influence of strong emotional excitement, cp. Döllinger, *Kirche und Kirchen*, 333, 340, &c.: "The whole intellectual and moral character is ruined."

III.—MORAL OBLIGATION.

By William Mitchell.

The reason why, while Science makes a straight course, Philosophy makes a zigzag and doubling advance is that the one is aware from the first of the precise facts with which it has to deal, while the other labours under the disadvantage of having itself to determine what they are. Philosophy must somehow state its own problem, and it cannot do this without somehow first answering it. Could philosophy state with sufficient definiteness what it has to explain, its problem would be, if not solved, at least on the certain road to solution. It has to give the *rationale* of experience. But then, what is experience? It certainly includes much illusion, and neither thought nor experience is at once adequate to expel it. Not our thought, which of itself is a criterion not of truth but of consistency. Not experience, for it embraces the illusions. If you merely pick and choose facts that will harmonise, you may give a certain *rationale* of these; but it is neither the philosophy of experience, nor, if derogatory to other facts, is it more a philosophy at all than an arbitrary generalisation. That is why philosophy is so difficult to make and so easy to criticise. Theories are made which explain certain facts and the rest are fairly or foully thrust in along with them, while those that are too obstinate are treated as sour grapes and handed over to credulity. This is especially the case in respect of Ethics, the science of the practice of man as man, and still more in the case of Moral Obligation by which as man he isolates himself from the other animals and would unite himself with God.

Even for the purpose of mere criticism we must be sure that the facts we flourish are genuine realities and not illusions. But since we cannot adopt all the facts of experience, seeing many are illusory, we are in this dilemma. On the one hand we cannot pick and choose among the facts without adopting a theory to guide us; and on the other hand, we cannot find a theory except we begin from the facts. It is evident that no one part of our fact-experience can be condemned on the mere strength of another part. We can eliminate the contradictions of our thought by reference to the pure facts of experience. But how eliminate the contradictions among these facts themselves? We have to purify

experience, yet experience is the only instrument ; for it is the universal postulate from which alone reason can begin and to which alone it can return.

The consciousness of this circular progress of philosophical knowledge was especially evident to Hume, Kant and Fichte. Philosophy, they saw, must end where it began—illuminating, purifying, unifying, but never destroying or creating. And so, when none of the three could exhibit a rationally complete representation of the philosophical circle, they did not blind themselves to the deficiency. They did not strive to make experience correspond to their theories. Experience as such was their assumption, and their failure to complete the rational cycle in it was not obscured by charging experience with delusion in respect of that part of it which resisted them. So that philosophy was no *petitio principii* to them. They all consciously failed to find a metaphysic of knowledge, that is, of experience in general, which was also a metaphysic of ethics—of experience in practice. What they did was not to attenuate the latter but to leave thought and practice in isolation, each with an explanation of its own.

Now it is just in this respect that their successors have committed their most vital error. The result of it is seen in the existence of so many self-existent systems, each gaining adherents among the unattached but seldom or never proselytising at the expense of one another. We are accustomed to overlook the seriousness only from the commonness of the error. All plead the actual illusoriness and contradiction in experience. Are we, then, in the dilemma of either taking experience as we find it and maintaining our various beliefs however recalcitrant to theory, or of proceeding throughout on the logical fallacy of questioning and purifying our postulate—the standard of our truth? If these are the only alternatives, it is evident that Ethics must proceed in an eternal see-saw of equally possible contradictions. In a case where one refuses to question the validity of the feelings of Freedom, Obligation, Responsibility, while another explains them away, how can either be justified or condemned?

It would be a very easy matter to show that the philosophical interpretation of duty is not the interpretation of duty as I or all feel it, that the benevolence of altruistic Utilitarianism is to me no benevolence, and so on. Even supposing me to be right in such contentions, I am not justified in thus defending the testimony of my feelings to objective truth except from something in them which inevitably distinguishes them from feelings that are illusory. I may maintain with Reid and Hamilton that they cannot with

logical consistency be rejected if anything else is accepted—that I am perfectly 'parsimonious' in accepting them; but if I do no more I have only chosen the other horn of the dilemma and cannot defend myself from the suspicion of delusion. Whether to criticise an ethical doctrine or to make one, it is equally necessary to discover what precisely is the postulate from which to begin. If no inviolable postulate can be found, our morality can only be a more or less systematised theory of practice as in Hume; or if it professes to be anything else, it will fall into the logical chaos which he was able to avoid.

It has already been said that no one fact of experience as such can have any claim of itself to superiority in comparison with any other fact. The difference between contingent and necessary truth is a difference not of the validity of fact as fact, but of the function which we find facts displaying. The bare feeling of any characteristic of a particular fact is undoubtedly the key to its importance in the unreflecting consciousness. But in philosophy no such subjective criterion can be applied without dogmatism. It is not subjective but objective certainty that we require, and the problem of philosophy is just this: to convert our subjective certainty—our faith in the uniformity of nature, in freedom, in subjection to moral law—into objective certainty. How can I who feel bound to obey a moral law say that every one is bound to obey it? I may analyse my state of consciousness to the utmost, but I can get nothing beyond it in my analytical judgment. Whatever feelings of necessity, universality, immediacy I find it containing, I can only say they are so for me. To say that I recognise the law itself as that which contains necessity is still to say that *I* recognise only. So long, indeed, as I merely adopt the subjective position of common self-consciousness, so long is it possible for another to say that I may be deluded. I, as an individual, cannot from a mere individual's standpoint — from the purest fact of my consciousness—prove that I am capable (as I *am* capable) of legislating for the world. As little, on the same conditions, can the world legislate for me. What it legislates for me is no moral obligation but force, unless it corresponds with what I legislate for myself. On the contrary, when I claim to legislate for society or society claims to legislate for me, both presuppose a system of law which is peculiar neither to society as such—as a majority say—nor to me as an individual.

In one sense then we can derive neither objective from subjective obligation nor subjective from objective. Yet in

another sense we do and must do both. The reason why criteria of actual truth have so often failed is that they have seldom had a true objective application given to them. This was the case with the Cartesian criteria which aimed at obviating contradiction, but they never could get beyond a subjective application. For the removal of objective contradiction some transcendent principle had to be assumed—either generally, as with Descartes, the perfection of God, or particularly, as with Spinoza, the agreement of the idea and its *ideatum*, and with Leibnitz, a pre-established harmony.

Equally valueless for objective certainty are the criteria of necessity, universality and immediacy or ' apriority ' as mere characteristics of a cognition. If, in the first place, one says that he *must* believe so and so because of his own nature or because of the self-evident nature of the cognition, he satisfies himself, but is quite unable to satisfy another till he show that this necessary perception of a cognition or perception of a necessary cognition is independent of him as a particular individual. He must, in short, somehow universalise either himself or the cognition. But, in the second place, that cannot be done by pointing to the *universality* of the conception; for the physical evolutionist will inquire as to its origin and then point to the uniformity of the circumstances of human life as its cause, whether it be true or delusive. And, in the third place, the *immediacy* or ' apriority ' of a cognition equally fails to assure of objective validity. For, on the one hand, men differ in regard to the beliefs of which, nevertheless, each maintains that he has an intuitive or necessary knowledge; and, on the other hand, one can never know whether or not he is using absolutely *a priori* knowledge. As a matter of fact, most of our perfectly intuitive knowledge was demonstrative at one time of our life; and, as a matter of strong supposition if not of scientific demonstration, all our intuitive knowledge has had a similar history in the history of the race. Finally, all three criteria fail to give the transference from idea to fact, from conviction to truth, from subjectivity to objectivity. I may talk of a moral law which I for my part never excogitated or developed in me more than I do the light of the sun,—a law which I find in every one and which comes to me with a vividness and self-evidence that I cannot resist. But this alone will not prevent Hegel or Darwin from telling me that my inquiry should begin where I leave off. I cannot pass from conviction to truth by using the criteria of the former. The real criteria of both may be the same, but that is just what I have to prove, and I cannot prove it from an individualistic standpoint.

It is evident that we can assign reality or truth to the facts of which necessity, universality and immediacy assure us, only after we apply the question of evolution to them. Whence are they? What is that subjective necessity which is objective and transforms convictions into realities? It is not the necessity of conception to any one, but its necessity for existence or experience; not the fact that it is believed by all men, but that all experience requires it; not its underivedness in any one's mind, not its priority in time, but that it is the logical *prius* of the particulars from which it is thought to be derived. Our purpose is not to make a transcendental justification of the ethical conceptions. What we do is to assume this rather and to state its counterpart. That is to say, we assume the existence of an ethical sphere of action and develop the consequences of that assumption. If such a sphere of action is denied, if, in other words, Sceptical or Egoistic Hedonism is maintained, there is nothing further to be said. For it is quite possible to deny the validity of the whole scope of Morality. One has only to brand the whole thing as delusion to be secure against every demonstration, seeing that every proof must begin with part of what is denied. I might exhibit the chaos into which the world would fall were morality expelled and did only personal gratification remain, but no one could demonstrate that such chaos was not the natural state and that order was not a fraudulent imposition of schemers for their own behoof.

Proceeding then to constitute Ethics as concerned with a distinct round of experience, we apply our objective criterion and ask—What is the principle which determines the science of Ethics as such? The sphere of morality is notoriously the home of subjective conviction. What, then, is it that justifies or purifies these convictions to the individual in regard to their claim to actuality? Whatever it is, it is inviolable *for Ethics*. That is the cardinal point of this paper. We must find it in order to avoid the suspicion of delusion and subjective dogmatism in our assertions of freedom and in cases of conscience, as well as to justify our feelings of remorse and devotion. When we have found it we cannot tamper with it without begging the question, for it must be the universal postulate in ethical determinations.

As we have already hinted, it is Moral Obligation. There are many other elements without which morality would be impossible, but as these apply to other spheres of knowledge besides Ethics they are not the determiners of the ethical

sphere as such. Every science has both a general and a particular determination. Thus the physical sciences are generally determined under logical laws with reference to their generic element, while they are also particularly distinguished from one another. So in Ethics, though freedom is an indispensable characteristic, and even though it might be said that we should not have become aware of freedom but for morality, it is not freedom which constitutes Ethics as a separate branch of philosophy, seeing that we are as free in other spheres of experience to which morality as such does not extend. Nor is it the possession of self-evident practical laws or of an ideal; for we possess such in the sphere of prudence which is out of, or at least wider than, the sphere of Ethics. Finally, merit or demerit being the concomitant of freedom is likewise too wide, and responsibility is consequent upon obligation.

If, then, there is a distinct sphere in the round of human action—call it Ethics, as in this paper, or a branch of Ethics, it is no matter—it is determined from the rest of human action by moral obligation, which on that account becomes also the first determiner of its contents. When we say that Ethics exists for the enlightenment of our moral obligation, we do not mean that a doctrine of duty must always be the main feature of every system. We should rather expect it to be the least prominent part. But it should always be remembered that what affords the guiding line of the whole process, what enables us to get beyond our own subject to legislate in morals, and what makes society a legislator for us, is this obligation. However slightly therefore anyone treats of Duty, and this is naturally most apparent in Aristotle the founder of Ethics as a distinctive science, it is this conception which determines every other ethical idea. Our question, then, is—What theories of End, Freedom, Merit and Responsibility are consistent with the postulate which enables them to be ethical theories at all, and for the sake of whose ultimate enlightenment they ought to exist?

The character of any ethical system is known by the end, ideal or standard of action which it professes. Our question is—What must be the characteristics of the end by reason of its determination through obligation? It is just the converse of this question that is usually put. But every attempt to derive oughtness from rightness must, as we have shown, either end in an illogical system or destroy the possibility of a separate science of Ethics at all. The history of Ethics in England furnishes an apt illustration in

the three stages represented, say, by Bentham, Bain and Spencer. Each begins by determining the right or end and subordinates to this what should have been the postulate. The result, of course, is that morality coalesces with prudence. The three stages are marked by the aspect which obligation comes to assume. Bentham expels it, Bain admits it in an external way by handing it over to the police, and Spencer absorbs it by identifying it with existence. No other conclusion than this was possible: what ought to be, is, and that not more as a philosophical reality than in every the most contingent action. If there is a science of ethical practice at all, obligation cannot be subordinated to the end but the end must be subordinated to obligation. And so we repeat our question—What are the necessary characteristics of the ethical end in view of the postulate of morality as such?

They are, that it be at once subjective and objective and equally valid and harmonious in both respects. It must be subjective, that is, it must present some interest to my desire before I could recognise it as a law to *me*. It must be objective, that is, it must present some interest external to my individual desires as such before I can recognise it as *a law* at all. An obligation is just the principle which expresses the equal validity of the same law as subjective and objective. The end must be subjective but not individualistic, and objective but not external.

With this criterion of ends determined by the necessary postulate of Ethics, let us inquire how far it is satisfied by the ordinary ideals of moral systems. It is apparent how the history of Hedonism has throughout its progressive career endeavoured to realise it. Beginning from the Sophistical position of unlimited subjectivity, which is to Ethics what Pyrrhonism is to Metaphysics, *i.e.*, what neither can answer in any other way than by neglect, Hedonism has sought to find some end which should be at once of equal subjective and objective validity. But, though it has passed from a formula of pure egoism to a formula of pure altruism, it has failed to find an end which shall preserve equally the rights of the subject and the rights of the object: and this, just because it has always been forced by its presupposition to occupy only one of the two standpoints, and has consequently been unable to do justice to the other, since of themselves they manifest no inherent connexion with each other. Not that this dilemma has not been seen. Every system of Utilitarianism has been an attempt to overcome it and nothing else. But it cannot be

overcome till Mill's question—'Why should I promote the general happiness?' receives the answer—Because it is when and only when I promote the general happiness that I increase my own; in short, till there is no opposition between my own and my neighbour's good—till Egoism becomes Altruism and Altruism Egoism; till, that is, the collapse of Obligation or Ethics itself.

In such a hopeless condition Utilitarianism was bound to lie till it somehow should get out of itself and criticise the absolute value of its own end. Now this has been done in two opposite directions—by the Rational or Universalistic Utilitarianism, and by the Ethics of Physical Evolution.

We concern ourselves with these theories only in respect of their attitude to the necessary postulate of Ethics. The end we found must be such as to conserve the rights equally of the subject and of the object. Now it is to this condition that Utilitarianism has, in its two developments, sought however unconsciously to conform. They are both prompted by Mill's introduction of quality as the distinguishing feature in hedonical calculations; for that was really to oust happiness as such from being the determining end. Utilitarianism was forced, as Socrates had been, to apply the calculus, the 'measuring art,' with the purpose not merely of measuring pleasure but of constituting or determining its absolute value. And since the value of the pleasure which an object produces differs with the attitude of the individual towards it, it is the best attitude which becomes the end; in other words, it is the harmony of the subject and the object.

But now, what is required is not a mere assertion of the harmony but the *rationale* of it. This the Ethics of Physical Evolution has seen and seeks to give. But the Universalistic and Rational Utilitarianism really presents no end, but only an ideal fusion of the rights of the subject and the object, without discovering the ground or determiner, rather only the consequence, of the fusion. It begins with what was the common conclusion of the Stoics and Epicureans, and amalgamates without unifying the reasoning of both as justified by the presupposition of the conclusion. It gives no *rationale* of the connexion between Happiness as such—the right of the subject, and Virtue as such—the right of the object. Whether happiness causes virtue or virtue happiness remains still the antinomy of practical reason. Nor is Kant's barren conjecture further advanced. "It is not impossible," he says, "that morality of mind should have a connexion as cause with happiness (as an effect in the sensible world), if not immediate yet mediate, *i.e.*, through an intelligent Author of nature."

The other development does present the required *rationale*, namely, in physical evolution. It is this which determines the true ethical end—human development towards the complete realisation of function and adaptation to environment. At present it constitutes, says Mr. Spencer, a Relative Ethics, but in the distance we see it will bring out an Absolute Ethics, in which, "instead of each maintaining his own claims, others will maintain his claims for him". This is just what Utilitarianism has always sought, as it had to seek; but it has obviously been gained only by reading 'existence' for 'obligation,' 'is' for 'ought'. Morality is taken from the individual and habited in an external determiner, or, to say the same thing, it is left with an individual who, in everything he does, exhibits the resulting product of a determination, to which in ultimate analysis he is found to be the passive subject, if anything more than the resultant himself. The ethical end is thus not for, but of, man. Not only is morality proper taken from the individual; what ghost of it remains is equally claimed in kind by the meanest object of his environment. Just as Clifford found it necessary so to extend the psychology of this evolution as to find the elements of consciousness in material operations, for the sake of the same consistency this physical ethics has to be similarly extended. Thus, while Spencer would apply moral distinctions only to the actions of sentient beings, his natural successors see no reason whatever for the limitation. "Is a watch that won't go the less a bad watch," says a writer in MIND, "because it neither made itself nor wound itself up? . . . . Is a man the less a bad man because he only follows his bad will and did not originate it?"

The only other end we shall examine under the postulate of Obligation is Perfection. Now subjective perfection, the mere attainment of efficiency, is not the ethical end for the simple reason that it may not include the rights of the object. Accordingly all the famous systems of Perfection have had an objective as well as a subjective reference. This is prominent in the formulas—to realise, according to Aristotle, the perfect exercise of a perfect life; according to Kant, an absolutely good-will; and according to Hegel, universal self-consciousness. Each of these regards the perfection of the individual as only a constituent in the actual end which is at once internal and external, subjective and objective. Society and the individual reach perfection, not by the former acting for itself—the doctrine proper to Physical Evolution, nor by the latter acting for himself—the doctrine of Sophism or Egoism; neither according to such

impossible ideals as the former acting for the latter—the ideal of the Absolute Ethics, or the latter acting for the former —the ideal of modern Utilitarianism. Both are in essential relation; and that for which obligation rests on each is just the realisation and thereby the perfection of that relation. Only after discovering what that relation is, are these formulas admissible, and then they are all admissible. The discovery can emanate of course only from self-consciousness where we find an identity of nature and interest with one another. Here we discover that the relation is self-relation and that its perfection consists in its infinity—in our self-satisfaction or freedom from external determination. The perfection contemplated by Mr. Spencer, on the other hand, is the finite and necessitated ideal of a complete external adjustment. The laws of morality are the expressions of this ethical self-relation. What experience does is as little to produce them as to construct the ideal to which they point. It only determines them to greater particularity and definiteness. They are accordingly *a priori* without being abstract, and actual or concrete without being an external product.

The application of the postulate of Obligation has a double function relatively to moral freedom. In the first place it assures of the reality of that freedom, a thing which no demonstration could do (except for metaphysical freedom) in view of possible doctrines of association and unconscious cerebration. In the second place, it establishes the essential characteristics of moral freedom without which no theory of it can be adequate. Confining ourselves to this latter function, we have to ask,—What is the necessary characteristic of a moral agent in view of Obligation? The answer can only be that man must, in the first place, have power to perform every obligation, and, in the second place, that the exercise or non-exercise of such power must depend on himself alone. But for the former I should not recognise the law at all; but for the latter it would be no law for me.

We need not examine any of the many theories of freedom that are founded on a psychology which makes the realisation of these conditions impossible. If, as Spinoza says, "the mind cannot determine the body to motion or rest or any other state," we need not care to discover whether mind is a function of brain or has its dynamical power and the reason of its existence within itself. Our freedom must be able to express itself in the determination of phenomena.

So, too, if the metaphysic of knowledge necessarily excludes it. Kant came dangerously near this position and is often actually in it when representing the sensible world

as self-determined, independently of the noumenal world. It is from this Kantian source that the undetermined will of Schelling and Schopenhauer is developed. Schelling, making the distinction between the noumenal and sensible worlds, defines free actions as those which proceed from the former. But before the noumenal *Ego* acts it must be disposed or determined to a specific nature. This nature we do not assume in time, and nothing we do in time can remove one particle of any essential evils it contains. Our sensible actions are therefore all inevitably determined. But we feel remorse in respect of them just because we know that we might noumenally have assumed another nature. Beyond the useless revealing of this noumenal freedom the feeling has no rational function. Similarly Schopenhauer is related to Kant, whom indeed Hartmann calls the father of theoretic as Schopenhauer is of practical pessimism. He lays the guilt of our actions on our character—a blind will—whose nature our actions reveal. We can never help acting as we do, seeing that willing always precedes knowing. Regarded from an external point of view our actions might have been different—that is, had our character been other than it is, or had we been some other person. When I regret it is my constitution I regret. I can only be sorry I am not another. Such doctrines of freedom are divorced from obligation, which nevertheless is the Kantian postulate for proving the existence of freedom at all.

The interpreter of Kant has two courses open to him. He may suppose either that Kant represents the sensible world as completely determined in itself, or that he makes it dependent on the noumenal world in some vital way. If the former, then to make Kant consistent, the interpreter must deprive him of the noumenal world (to which he held tenaciously) as an unwarrantable, because an unnecessary, assumption; which is to deprive him of his whole doctrine of morals and leave him in intellectual agnosticism. In the other alternative, we must find in his work that he has some living connexion between the two worlds. If this be found, the latter can evidently be the only just interpretation.

Causality is one of the scientific categories or categories of ordinary experience, and so has its full application in the sensible or phenomenal world. We cannot apply it in the same sense to anything else without dogmatism—such dogmatism as is expressed in the current agnosticism which manipulates the common categories at will as in Mill's question, Who caused God? From the standpoint of science or experience we know only that causality is becoming, but in morals we find that becoming is only the

phenomenal representation of causality. We find that causality is more than a mere time-relation. It is a determination of an object before it receives—before it can receive—the determination of time or of any other phenomenal relation. It is the logical *prius* of a phenomenon as such—the first predicate of every possible object of sensible experience. No phenomenon could be a phenomenon at all without it. On the one hand, then, we can represent the sensible world as complete and determined ; and, on the other hand, we can point to the freedom of the cogitable world as expressed in it. In the former sense, we say motives cause volitions or resolves ; in the latter, that I alone am their cause. Motives, I can say, become resolves just as I can say that a certain combination of gases becomes water. But analyse the antecedents in either case as I may, I can find no trace of the effect or of any causal nexus in them, for no phenomenon is adequate to express more than it is in itself. The causal nexus is not phenomenal. Before the time-relation of becoming, or, as we say, physical or phenomenal causation, is predicable of an object, the object must, like all phenomena, be causally determined by a transcendental unity implied in all systems of relation. The self-conscious agent in that unity *I* is the cause that determines my motives, my resolves and actions to be what they are. Motives become volitions and volitions become actions not in respect of any abstraction like a phenomenal succession, but by reason of the unity which gives them their first determination—and which we have called the causal determination—to be phenomena at all.

Such a function moral obligation postulates for will as the first of its two characteristics, namely, that it have power to fulfil its obligations. We proceed to the second, that the exercise and non-exercise of such power must depend on the agent—the subject of obligation. Under the former we have seen how he is free in his phenomenal relations, *i.e.*, How he *can*. We must now discover how he is free in his essential or self-relation, *i.e.*, How *he* can.

As it is the confusion of will and desire which creates the difficulty of conceiving the personal manifestation of freedom, so it is the confusion of will and knowledge which makes it difficult to keep man in his individuality. The history of ethics shows that it is hardly possible to escape from identifying will and desire without identifying will and knowledge. Thus the earliest moral speculators, the Sophists, committed the former error, being immediately followed by Socrates who committed the other ; and so on through all the ancient systems. The modern course was opened by Descartes with

the former error; Spinoza added the other, and so on again till the present time when the doctrine of Evolution claims to resolve the difficulty—the physical, by uniting reason to desire, *i.e.*, under the form of physical necessity; the dialectical, by uniting desire to reason, *i.e.*, under the form of freedom. We confine ourselves to the latter.

To say with Green that "in the sense in which thought and desire enters into an act of will, each is the whole act," or that "will is equally and undistinguishably desire and thought," is just to say that a man never acts but for an end he desires, and that he is free when that end is rational. Now, while this is a correct representation of the acts of men, it is not the freedom with which we are more immediately concerned. This metaphysical or general freedom when demanded from a man, as is done by obligation, postulates a particular freedom in him. The one is the freedom of God which we are commanded to realise, the other is the freedom which we demand for the purpose of performing that command. Obligation thus postulates both this objective and this subjective freedom. It could not impose the latter without presuming the former, nor if it imposed the former without presuming the latter would it be any longer obligation at all. The significance of freedom in Ethics as a science is the state of the individual before the harmony of thought and desire, before ideal freedom has been realised. That it can be realised we presume under the postulate of obligation. How it is realised we also know. It is through self-reflection, through thereby recognising the limitations of impulse, that man becomes superior to impulse and is released from physical necessity. Man shows his freedom when by such absolute reflection he harmonises reason and desire in the satisfaction of moral obligations—when practical reason is his sole guide and he acts under the idea of this complete self-satisfaction.

This distinction between the distinctively metaphysical or objective and the distinctively ethical or subjective freedom is not to be confounded either with Hegel's distinction between absolute and formal freedom or with that between determination and indifference. Absolute freedom is that which has been described. It has itself for its object, is wholly self-related and becomes determinate through no external impulse but by its own infinite self-reflection. The formal freedom has a limited or contingent content and is variously denominated by Hegel as caprice, arbitrariness, wilfulness. It is free at all just because it consciously transcends limitations; but its transcendence is finite and relative, for its reflection is not self-directed but proceeds from impulse to

impulse, from cause to consequence, thereby being partly determined from without. Now the will must in action be always one or other of these two, that is, it must manifest itself either in absolute or in formal freedom. But obligation, as it applies to the individual before such manifestation of his will, applies to a state in which it is possible for the individual either to identify himself with the universal reason and be free or to refuse to do it. A murderer sentenced to death, says Hegel, is free only when he wills to get hung. We with the postulate of obligation, if in this case it applies, if the harmony of desire and knowledge is attainable, claim for him a freedom which shall enable him to attain it.

Nor is this distinction of subjective and objective will to be compared with that absurd outstart of much current discussion as to freedom,—'Will is either determined or undetermined, that is, indifferent; now, if it is not determined,' and so on. The alternative is perfectly good in Psychology, but except for the misconception it breeds it has precisely the same importance to Philosophy as the fact that it was fair yesterday but it rains to-day. Indifference, indeed, is generally itself a form of determination and is always on a level with it in the case of a self-conscious being. Man has always subjective freedom—the power to realise or not his proper or objective freedom. If he does not so realise himself in his actions, he is *indifferent* to his proper self or is *determined* by the blind force of his external relations. If he does realise his objective freedom, he is indifferent to the blind force of his external relations and is determined—determining them—according to his proper self.

I ought now to examine in the same way the ideas of Merit and Responsibility, but it is better to close here as these subjects have lately become too prominent in ethical literature to be adequately treated within the limits of this paper. For the present purpose, too, a critical discussion is unnecessary. Merit and Responsibility are the necessary consequents or complements of the ideas already discussed. It is just as legitimate to reject them (in the only sense in which anybody gives them any meaning and value), on the ground of Physical Ethics, as it would be for a man who had gone round the world to deny the existence of some place which could not have lain in his way. Nor are these ideas in any way inconsistent with the fact that to make the moral law square with the appetites is, as Kant says, "to corrupt at the source the fountain of Duty and to banish and cloud all its dignity"; seeing that in ethics they spring from and are determined by that very fountain of Moral Obligation.

IV.—THE NEED OF A SOCIETY FOR EXPERIMENTAL PSYCHOLOGY.[1]

By Joseph Jacobs.

This is the age of Societies. Agriculture and ballooning, cart-horses and dentistry, engineering and forestry, all subjects from A to Z, are represented by associations intended to promote the interests of each particular subject. Psychology alone has no society connecting together the workers in the wide field which the science of mind can claim for itself. Yet neither work nor workers are wanting. The science itself has reached what we may term the *monographic* stage. Methods of investigation are sufficiently advanced to allow of the work being allotted to specialists in the various branches of the study. Much too is being done for psychology by workers in other sciences. A quarter of physiology—all that part which deals with nerves and much that deals with muscles—is as much psychology as physiology. Most of the experience gained by mad-doctors is so much material gained for mental science. Social statistics have their lessons for the psychologist. Much of anthropology and almost all folk-lore, almost all sociology and all that the Germans mean by *Völkerpsychologie*—what are these but *data* of the science of mind? So too philology—in as far as it deals with meanings, not roots—has rich instruction in store for the psychological investigator. And all these studies might hope for reciprocal aid from psychology, which may one day assist biology in determining what constitutes the unity of the organism. But all this awaits the progress of the study of the individual mind; and it is the need of a society to develop this study by collective investigation that I wish to point out.

Such a society would fulfil the ordinary functions of similar institutions by affording a *locale* where fellow-students might get to know each other and each other's work. It could collect at its rooms a specialist library; it could provide instruments needed in psychometry and now only accessible to persons with long purses or mechanical ingenuity. It could publish memoirs, *Jahresberichte* of progress in the various branches of the science, and supply a much felt

[1] A Paper read before the Aberdeen Meeting of the British Association.

want by encouraging the compilation of classified bibliographies on special problems. It might aid in settling the technical terminology of the science, which is at present largely arbitrary. All these functions could be performed by a Psychological Society with advantage to the science and its students.

But a Psychological Society could be made to advance the progress of the science in a manner peculiar to this branch of study. The minds of the members could be utilised so as to form, as it were, a living laboratory; and it is to this mode of investigation that I wish here especially to call attention. Mr. Galton has shown in his varied researches the practicability of getting answers from educated persons as to the contents of their own minds. What he has done *privatim* and accidentally could be done on an organised scale by a society such as that here proposed. Membership of it might be held to imply willingness to answer questions on psychological subjects issued by properly constituted officers of the society. Any member studying a particular problem in which introspection was needed could rely on obtaining a mass of materials from persons who, by being members of the society, might be expected to be specially skilled in examining the contents of their own minds. The process might be somewhat as follows. The investigator would apply to the executive committee, stating his problem and the data he wished to collect. The committee, if they thought the matter promising enough, could then appoint a sub-committee authorised to issue pertinent queries to the members or other persons, as *e.g.*, schoolmasters, qualified to give information. To this sub-committee the inquirer would *ex officio* act as honorary secretary, and it would be his privilege to draw up the report on the subject. Something like this is probably done by all societies or clubs, sporadically and on special occasions; but the peculiar nature of psychological investigation renders it specially fitted for periodical and organised inquiries of this kind. I remember hearing of a number of French physicians who styled themselves a Society for Mutual Autopsy, because each of them, like Bentham, agreed to leave his body to be dissected by the surviving members. What they did with their bodies, I propose should be done with living minds. Whether done by a society or by individual efforts like those of Mr. Galton, it is only by such 'mutual autopsy'—or collective investigation—that the science can be freed from its fundamental and inherent defect of subjectivity. Only by this means can we clear it from the

danger of mistaking individual peculiarities for general laws, and transform it from the study of individual minds into a true and valid science of mind.

Such in outline is a working scheme for a Society of Experimental Psychology. Is it workable? That depends on two considerations—the number of workers and the amount of work we could find for them to do. As regards a possible dearth of workers, we cannot know about this till we try. A psychological journal, MIND, has reached the tenth year of its existence. London University has for the last quarter of a century required a knowledge of psychology from all its Bachelors. There are two philosophical clubs in London, and most universities have similar institutions attached to them. Cambridge has of late years been turning out trained students of psychology who have had the benefit of Prof. Sidgwick's and Mr. James Ward's teaching. Recently many educationists have had to pass an examination in mental science. Surely among all these a sufficient band of workers could be organised if we but knew how to get at them. And, in addition to these, the recent advance in female education has been preparing many minds as subjects of experiment who have plenty of leisure for introspection. Besides we do not want investigators so much as objects of investigation—investig*atees*, if we may so call them. It would be indeed strange if we could not find a sufficient number of persons interested in introspection in a country like England, which has shown itself pre-eminent in the two arts—fiction and the drama—which have closest connexion with psychology. And the mention of fiction reminds me of a quite unworked field for psychologists which a society might cultivate. For the last fifty years we have had a large number of persons whose life has been passed in examining and exhibiting the processes of other men's minds. From their experience the science of human nature ought to be able to learn something. I need only refer to the stores of acute observation contained in the works of George Eliot and George Meredith.

As regards the number of unsolved problems which could be found suitable for collective investigation, there is less difficulty. There is the whole field of psychophysical inquiry now being worked so zealously by physiologists and by the school of Fechner and Wundt in Germany. We have here begun to measure men's minds by measuring their senses. Observation on children's minds, as attempted by Charles Darwin, has almost grown into a separate study, to which the apt name of Baby-lore has been given.

Mr. Galton's studies in imagination might be followed by similar inquiries on after-images, powers of observation, memory, linguistic capacity, calculation, capacity for following trains of reasoning of various kinds, and the like. If this were systematically effected, it would not be too much to hope that before many years were over, a schoolboy's mental powers could be tested and measured with as much accuracy as his height and weight are now. We want to know more about colour-blindness and note-deafness, about the lip-language of deaf-mutes, the personal equations of astronomers, the mental processes of paralysed persons, of calculating boys, and of the so-called 'thought-readers'. It would be useful to have some actual trains of association jotted down by psychologists who can write shorthand. Details of memory could be tested by accurate observation of the events at the time of occurrence. Can we think in a foreign language? When we read a novel, do we actually have pictures of the scenes before our minds? When novelists write, have they similar pictures and how far do these correspond? Can we, like Cæsar is said to have done, read and listen at the same time, and then reproduce what we have read and heard? How quickly can one read, and how much does retention depend on the pace of reading? How are family traits set? Our sensations of local and temporary death in a limb that is 'asleep' are fit subjects of inquiry. What is the difference in our minds when alone, among friends, in a crowd of fellow-townsmen, in a crowd of foreigners? How many things can we attend to at once? All these and a hundred similar questions will occur to any one accustomed to think about his own thoughts. Not that all of them deserve equal attention: on the plan I am suggesting this would be determined by the executive committee before papers of questions could be issued. But most of them admit of easy tests being applied, and some of them or others that might be suggested may aid us in settling such problems as these: the influence of early impressions, the ingredients of character, the classification of the emotions, varying susceptibility to bodily pain and mental anguish, variation in the intensity of the point, and extent of the field, of attention. Above all we want experiments on will-practice: it is possible that character could be immensely modified if we could begin by training our will on one thing till we got it perfectly under control. Or it may turn out that this is impossible beyond a certain age which would have to be determined. The whole field of heredity would still remain, affording enough work for a society by itself.

I may illustrate what I have been saying by taking some particular point on which collective investigation would throw light. A German psychologist, Dr. Ebbinghaus, recently published the results of an elaborate examination of his powers of verbal memory. [See MIND XXXIX. 454-7.] Among other points he studied how far the power of remembering sounds apart from sense depended on the number of syllables to be learnt. He arrived at no very definite result, but from his materials I fancy I have discovered the following curious law. There is, I submit, a certain number of syllables up to which each person can repeat a nonsense word like *borg-nap-fil-trip* after only once hearing ; and it is probable, though we cannot know for certain, that this number varies with different persons, giving a sort of test of their linguistic capacity. This limit one may term ' the threshold of verbal memory '. Now from Ebbinghaus's results I suspect that for every syllable over the threshold the word has to be repeated three times before we can exactly repeat it. Thus taking a nonsense word of nine syllables, *pal-eng-mon-lif-tra-mig-pro-fu-jil*, a person whose threshold was six syllables could repeat it after nine repetitions ; if seven were the threshold, in six repetitions ; while a Mezzofanti with eight as a threshold could learn it in three. But this law, if it is a law, has at present only been deduced from observation of one man's mind, and is therefore obviously not a law of mind in general, but at best a law of Dr. Ebbinghaus's mind. It is possible and I think probable that besides the variation of threshold with different persons there may likewise be a variation in the constant multiplier, so that a person with threshold six might require not three, but four times the number of surplus-syllables to obtain perfect reproduction. All this could be settled with ease if a Psychological Society existed whose members would be willing to amuse themselves and instruct others by trying after how many repetitions they could repeat perfectly—though not necessarily remember afterwards—each of the following nonsense words :—

(4) *Bor-nas-tri-flip.*
(5) *Cral-forg-mul-tal-nop.*
(6) *Ab-nar-chif-vol-zil-tuf.*
(7) *Dak-mil-tag-bin-roz-nil-gug.*
(8) *Gom-lar-gol-foo-nop-rit-lu-chat.*
(9) *Pal-sug-mon-lif-tra-mif-gro-pu-jil.*
(10) *Fud-wij-ta-ning-por-lo-trig-num-gri-foo.*
(11) *Jus-lot-ling-grif-wuz-kom-ril-gru-far-drom-lif.*
(12) *Morg-lap-tril-gog-maf-timp-ru-lop-fo-grif-tu-pol.*
(13) *For-cli-nip-tral-mor-gif-ti-glip-pra-mu-nag-lop-ti.*
(14) *San-tor-li-con-gram-jin-go-tol-gan-su-fim-tok-wil-fo.*
(15) *Min-dal-tul-fuj-sul-mor-lu-fon-tif-gim-zik-tat-mi-ju-lon.*

Care has to be taken in forming such test-words that the syllables do not fall into any marked rhythm which considerably lessens the trouble of repetition. Hence the ease with which one can retain the comic query—

> Chrononhotonthologos,
> Where left you Aldiborontephoscophornio?

So too the test-words should be learnt as wholes and not bit by bit, or else the suspected law cannot apply. Thus by dividing we can conquer Shakespeare's longest word *Honorificabilitudinitatibus (Love's Labour's Lost*, v. i.). Any one can say *honór* and *ificá* and so *honórificá*. Similarly *bilitu* and *dinita* easily combine into *bilitúdinitá*, whence the road is direct to *Honórificábilitúdinitá*—to which we add *tibus* at our leisure. But add a few consonants to divert the rhythm, *e.g.*, *Hol-nop-rig-firn-can-bif-lim-tug-dril-ning-taf-til-bus*, and it will take a man of seven-threshold eighteen repetitions to be able to repeat it without mistake. All this may seem trivial and worthy only of the *Boys' Own Book*. But when it is remembered that upon a boy's verbal memory depends his possible success with a classical education, the determination of his threshold of memory and, if there is such a thing, his constant of repetition will immediately appear as eminently practical tests for determining such a point as whether he shall join the modern or the classical side of a school.

And this leads me to conclude with a few words on the importance and need of psychological inquiry, especially when as in the last simple instance it leads to results bearing the true stamp of science in its capacity for measurement. Education can never be much more than a rule-of-thumb affair till it can apply psychological principles with a firm conviction of their validity. A boy's progress can only be guessed at nowadays: if such tests as the above could be applied systematically, it could be measured. So too the dread question which is being asked more and more frequently, "Canst thou minister to a mind diseased?" must wait for its answer on the progress of psychological science. And if the Art of Conduct is ever to be more than rough inductions of social convenience it must find a basis in a properly constituted Science of Mind. The final end of all the sciences represented this year in Aberdeen is to make the characters of men good. Yet we do not know at present what constitutes the ingredients of a man's character, still less what makes that character good.

V.—RESEARCH.

STUDIES OF RHYTHM.

By Prof. G. Stanley Hall and Joseph Jastrow.

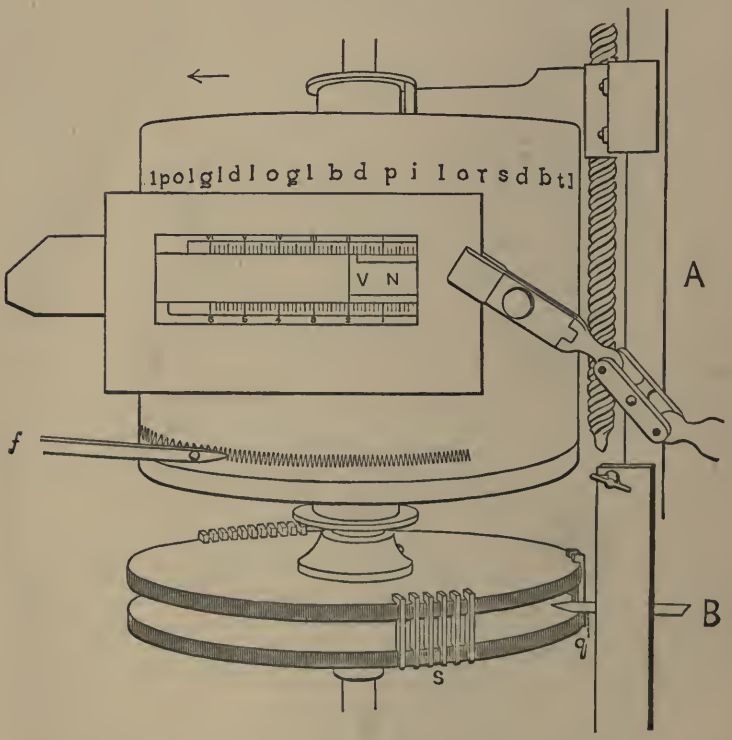
Psychophysical Laboratory, Johns Hopkins University, Baltimore.

I.

In a series of observations undertaken in the psychophysical rooms of this University by Mr. J. M. Cattell, single letters of 1·75 diopters were cut out of a book of Snellen's optotypes and pasted in horizontal rows 1 cm. apart on a white background around the revolving drum of a Ludwig kymograph. Care was taken that there should be no repetition of letters or of sequences and that the letters should not spell or suggest any words. These letters were viewed at a constant distance of easy accommodation through a screen placed as near as possible to the drum, by means of a slit 1 cm. wide and of variable horizontal length. The revolution of the drum gave thus the conditions of normal reading except that instead of the eye moving along the line of letters the line moves in the opposite direction across the field of vision, the eye remaining stationary. By varying the width of the aperture or slit, the rate of movement of the drum and the size of the letters, several interesting determinations elsewhere to be reported were made. One striking result, somewhat incidental however to the main object of these observations, was that under the same conditions the names of the letters could be pronounced more rapidly than the letters could be counted. With the slit open, *e.g.*, 1 cm., exposing thus one letter at a time, the average time of many records each in nine different persons was 0·248 and 0·283 sec. per letter at the most rapid possible rate of pronouncing the names of and of counting series of fifty letters respectively. As in naming letters we can foresee no sequence but only the interval, while in counting we foresee the succeeding number-names and have only to match a series of visual and an established series of motor impressions, this time-relation was not foreseen. In a later series of observations yet unfinished, Mr. G. T. Kemp counted linear sets of from three to thirty black squares pasted upon strips of white pasteboard. The eyes were brought before a long slit closed by the arm of a long horizontal lever held in position by a magnet, while the attendant placed any slip in the slide where it was instantly seen as (after an *avertissement*) the lever fell. The observer had to press a key as soon as the counting was finished, and the attendant only to set the Hipp-chronoscope and record the results. As the whole series to be counted was seen from the first and the position of the first spot to be counted was predetermined, and as all erroneous results were excluded by the recorder and all

those that seemed exceptionally long or otherwise unfavourable rejected by the counter, the conditions were favourable. Yet even here for the longer slips of between twenty or thirty spots the average time per spot was rarely reduced below $\frac{1}{4}$ sec. and sometimes reached and even exceeded $\frac{1}{3}$. The strain of concentration is great. The attention is very prone to slip forward or backward one or two steps or to lose the place along the line of such uniform spots even if they are 1 cm. apart and only 1 ft. from the eye, and rests must be frequent and of increasing length. By arbitrarily varying the rhythm, *i.e.* by counting by ones or in groups of twos, threes, fours, &c., the time-results can be varied constantly, as will be seen later in the full report, but very rarely reduced below the limit.

Apparatus.



For the further study of these and other rhythmic phenomena, undertaken with Mr. Joseph Jastrow, two round plates of solid brass, 17 cm. in diameter and 4 mm. thick, were fastened 2 cm. apart and clamped by a screw on the upright revolving shaft

of a kymograph. Around the entire circumference of these plates notches had been sawed 4 mm. deep and 2 wide at regular intervals of 2 mm. for one and 4 for the other half circumference. A hundred uniform brass slots, stamped out with a die, were made to fit these notches so exactly that they would go in easily with the hand and yet not be thrown out by the revolutions of the plates. These slots could thus be set into the notches to represent any interval or combination of intervals so far as the circumference of the plates would admit. This limit might of course be readily enlarged by increasing the circumference or by constructing two or more pairs of plates each with one uniformly distinct series of notches all the way round. Upon the upright iron beam which supports the shaft of the drum, was fastened a frame to hold large quill tooth-picks which were kept in position by a screw and clamp to play upon the slots as they rotated past. We could find no other substance which produces, when cut down to the proper form, clicks so sharp and distinct, even if the eyes or slots are very close together or the rotations very rapid, while offering so little resistance to the rotation of the drum. The upper part of the annexed cut (A) represents the screen and letters, and the lower (B) the simple aparatus for producing the clicks which we call a rhythmometer and which can be furnished by our University mechanic. When such an adjustment had been found that a semi-circumference filled with slots (*s*) moves under the quill (*q*) at exactly the same rate, measured by an electric tuning fork (*f*) of 50 vibrations per sec. on the drum above, as a semi-circumference with no slots,—*i.e.*, when the pressure of the quill producing the clicks did not retard the drum,—and when a mm. scale had been pasted under the points of the friction-wheel and the time-interval between two slots for each of several desired positions of the points determined once for all, observations could be begun.

A. *Counting.*

A number of cogs was set up by the operator (following no order of numbers) and one cog was put in as an *avertissement* at what seemed the most convenient interval of about $\frac{3}{4}$ of a sec., and the observer sought to count the clicks. The drum was allowed to revolve several times till he had attained a satisfactory degree of certainty, when the record was made and another number set up.

In the observations on which the Table on next page is based, the effects of fatigue are in large measure eliminated by beginning each series of observations with a small number of clicks, passing upwards, skipping from four to eight, to a maximum of two or three score clicks and then down again on the same numbers in inverse order and excluding all series which showed any considerable deviation. In this way from three or four to ten observations on each number (more on the small than on the

larger numbers) were made, of which only the averages are given in the Table and intermediate numbers above ten omitted. Two other intervals above and below those of the Table were used. The effects of practice are obvious. E. M. H., *e.g.*, on whom but one very incomplete record was made, was most in error, while J. J. and G. S. H., who made most records, are nearest right.

Table I.

Actual Number of Clicks.	Estimated Number of Clicks (Averaged).									
	Interval, 0·0895 secs.				Interval, 0·0523 secs.					
	G.S.H.	J. J.	H.S.	J. D.	G.S.H.	J. J.	H.S.	J. D.	A.G.B.	E.M.H.
2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	2·86	2·2	2	2·5	2
4	4	4	3·4	3·25	3·55	3·22	3	3·8	3·5	2
5	5	4·8	4·2	3·75	4·6	3·57	3·25	3·7	4	3
6	5·5	5·5	5	4	5·43	4·29	3	3·7	4	
7	7	6·1	5		6	5·5	3·5	5·8	4	
8	8	7	7	5·75	6·16	5·6	4·25	4	4	3
9	8·33	8	8		8·1	6	4	8	4·5	
10	9	8	8·1	7	8·2	5·7	5·2	5·8	6·25	
12	11·66	10·5	11	7·75	11	6·5	5	9	6	
16	16·5	14·7	9	11·5	15	10	7	11	8·7	4
20	18	17·8	13·2	15	19·7	11·25	9·2	8	10·2	5
25	22·5	23	17·5		20	13	10·1	12·2	11·7	6
30	29	27·4	24	20·5	23	15	12·5	18	16	8
35	33·3	33	27	20		20	12·5	11	17	
40	36·6	37	33	24·5		27	14·7	26		
45	41	42	43	26		32	17	30	21	
50			34·5	31·5		35	18	26·5	22	
55			49	34		39	21			
60			48	35·5		44	25		26·5	
65			57	41		47	23	25·5		

Counting objects and impressions is a very complex process and slow and hard to teach or learn. (1) The impressions in a series must of course be distinguished from each other. The ear, which does this most acutely of all the senses unless it be touch, can discriminate $\frac{1}{132}$ (Helmholtz) or even $\frac{1}{500}$ (Exner) of a sec. under exceptionally favourable conditions. These of course are extreme limits, but from 24 to 40 beats per sec. can be distinguished by the average ear without fusing into a tone. The actual number of beats is also a function ; that is, in order that their discontinuity may be clearly perceived, four or even three clicks or beats must be farther apart than two need to be. When two are easily distinguished, three or four separated by the same interval approach nearer to the above limit and are often confidently

pronounced to be two or three respectively. It would be well if observations were so directed as to ascertain, at least up to ten or twenty, the increase required by each additional click in a series for the sense of discontinuity to remain constant throughout.

(2) Counting requires a series of innervations, if not of actual muscular contractions. So far Stricker is probably correct, uncritically as he overlooks other elements in the process. The most rapid contraction of antagonistic muscles in trilling by pianists who have given us their record, or the rapid lingual movements involved in aspirating the sounds *t*, *k*, recorded by a Marey tambour, we have never found to exceed and rarely to reach six double or twelve single contractions per sec., while few can make more than four or five double movements in that time. There is thus at any rate a wide interval between the most rapid innervations and the limit of discriminative audibility for successive sounds. Attention, in other words, discriminates sensation much more rapidly than the will can generate impulses. How this fact is reconciled with any extreme form of the hypothesis of the identity of apperceptive and volitional processes, it is not easy to see. No one would surely venture to assume that, because we can volitionally cut short the otherwise normal duration of a single innervation-impulse by innervating an antagonistic muscle, the extreme limit of distinguishing elements in a series of noises marks really the limit of this abbreviation.

(3) Counting involves the matching, pairing or approximative synchronisation of the terms in two series of events in consciousness. However familiar both series may be, this is difficult. Many school-children find it hard to keep step with others or to keep time with a drum or piano in marching, and savages have been reported to sight across each stick used as a counter at animals they were selling, to keep the correct tale. Even in registering transits, some observers record the instant the edge of the dancing star first touches the threads and others wait till it seems exactly bisected by it. Again, one anticipates the instant and practically eliminates his physiological time, while another admits it in full ; hence the personal equation is far greater than can be accounted for by physiological or reaction-time. Wundt's ingenious observation upon an index moving across marks on a dial to simulate the transit of a star showed the great difficulty, if not impossibility, of identifying in time the perception of two really synchronous impressions on disparate senses. What now becomes of the lost clicks when we are constantly behind in counting, yet with great subjective assurance that we are right? It will hardly be sufficient to say that, when counting with great energy and concentration, we cease to attend to the auditory series, stretching the interval we caught the *tempo* of at the beginning of the series, as all short intervals are expanded when we come to perceive only our innervations. We may however conceive the earliest announcement of the impression of the first click in consciousness,

and the exit therefrom of the registry-innervation involved in counting it, as separated in time by some not inconsiderable proportion of the simple reaction-time from ear to tongue. If the interval between the clicks is greater than or equal to this reduced reaction-interval, consciousness is done with the first click when the second arrives, and there is no error. If, however, the second click begins to be recognised in the focus of consciousness before this has completely initiated the act of tallying the first, and if the fastest rate of doing so has already been attained, then the third click will come a little earlier in the process, until at length a click in the later afferent stage will cease to be distinguishable from the perhaps more widely irradiated process of the earlier efferent stage of tallying, and will drop out of consciousness and be lost, possibly after the analogy of the second of two sub-maximal stimuli in myological work, which produces no summation if extremely near the first in time. There is a disparateness between hearing clicks and counting, as there is between hearing the bell and seeing the index moving over the divisions of the dial, only it is of a different kind and perhaps degree; but the two acts are united in a "complexion" (Wundt), like all other impressions, if their apperception is simultaneous. If this be the explanation, we should expect that, in certain melancholiæ and other mental disorders in which the answer to the simplest question is delayed for perhaps a whole minute or more, this dropping out of successive sounds with great assurance that all are counted might begin at a much slower rate. But again the sense of manyness, which we get from the first two or three clicks, acts as a stimulus to us to bend all available energy to tally as fast as possible, and this concentration makes the sensation of the clicks dim. Thus it may be enough to simply say that, as we are unable to realise the different acuteness of the time-sense in the domains of different senses, so we fail to appreciate how wide the interval is between our power to hear and to count. We do not realise how far the fastest counting falls short of the fastest hearing. In judging of small divisions of time, we seem, as Vierordt thought, to take relatively large periods, perhaps even as great as our psychic constant (or the time we reproduce with least change)—so large at least that we can overlook it readily, and then pair or otherwise group the subdivisions which do not get into the field of direct time-sensibility themselves. The focus of apperception is perhaps dominated by the rhythm of the largest and more slowly loading and discharging motor cells. Although we can discriminate a finer intermittency by means of the smaller sensory cells, this is prone to be done more in the indirect field of consciousness, and these smaller moments of time speedily fall out of sense-memory into oblivion like knowledge or impressions not directly reacted on. If immediately known time be discrete, and temporal continuity be an inference, as seems likely, these finer temporal signs are some-

what analogous to the finer local signs discriminating motion and even its direction considerably within the ordinary limits of discriminative sensibility for stationary compass-points.

(4) Counting is more than tallying by ones; it is giving names to each position in a series of tallies. These number-names even below ten are of different quantity, difficulty of pronunciation, &c., and neither the effort nor time of innervation or of transition to successive names is uniform. The words one, two, three, can be brought out more easily and quickly than seven, eight, nine, even though the innervation is only just enough to enable us to keep place in the series. Generally this was not done (unless in the second series of G. S. H. in the Table) and probably cannot be done much quicker, to say the least, than the most rapid rates of antagonistic innervation even in the most skeleton pronunciations of them. If it can be, then counting ceases to be the real tallying or counting by ones. The lack of uniformity in the number-names makes the series of counts, unlike the smooth sensory series of clicks, so uneven that rhythms in the act are almost inevitable. Easier syllables are slurred over and harder ones made more prominent by means of the greater time or effort they require. Hence, in part, comes the tendency with most to count with a system of accents, on, say, the tens, fives, or perhaps twos. This too helps to make the exact matching, necessary to very rapid and correct counting, hard. The number-name is of course the last of these processes learned by the child. We have often found children of three or four years of age to bring "so many" blocks, if a number of actual things was pointed out, or even to beat "so many" times up to five, six or even eight, who did not know the number-names in order above two or three.

B. *Just observable Differences of Duration.*

Three equal intervals, each begun and ended by a click, and each interval separated from the next by a convenient term of about 1 sec., were set up on our apparatus. First the observer heard a click as a signal that the series was about to begin, then came the initial, and in, *e.g.*, 4·27 secs. the terminal click of the first interval; after a rest of about 1 sec. came the initial and then the terminal click of the next; and after another second's pause those of the third interval, all three intervals being equal in the first set of observations. Then the length of the middle interval was either increased, diminished or left unchanged, and the drum again set in motion; when it had reached its full uniform rate of rotation, the observer tried to tell in which sense, if any, the middle interval had been changed. He was allowed to hear the series but four times before judging. These conditions were of course very favourable for accurate judgment. After the series had been heard two or even three times, no impression of the relative length of the middle interval would often exist, and only after hearing the fourth and last

would the judgment incline to the *plus* or *minus* side. So, too, inserting the variable between two invariable and like intervals greatly facilitated judgment, which between two unlike terms is far less accurate. D. and S. made each twenty judgments when the middle interval was varied $\frac{1}{60}$ of the 4·27 secs. of the extremes, *viz.*, ten times each way with no error. G. S. H. judged ninety times under the same conditions with no error, while J. J. made only twelve errors in ninety judgments. When the variation of the mean was $\frac{1}{120}$ of the same time of the extremes, D. and S. made no errors in ten judgments, J. J. made three errors in forty judgments, and G. S. H. made two errors in thirty judgments. These latter judgments and the effort to 'hold time' which they involved were extremely fatiguing, and yet occasionally a judgment would be rendered with far less than the usual degree of attentive effort, and such judgments seemed hardly less likely to be correct than the most laboured ones with many muscles involved in the repressed but often quite compounded 'time-beats'. Confidence in the power to judge the finer intervals, or in the correctness of a judgment when made, diminished greatly as the differentiation required was hard, and surprise, when a short series was found at the end to be mostly correct, was almost invariable.

C. *Full and Vacant Intervals.*

A third set of comparisons was made. It is well known that if a horizontal line be bisected in the middle and one half untouched and the other half crossed by short regular perpendicular lines, the latter half will seem the longer. It was found that under certain conditions the same illusion held for the time-sense. The intervals are arranged as described in the preceding paragraph, only there are but two of them. Of these the first is set full of cogs which give a corresponding number of clicks, as they pass under the quill. In this case the illusion was invariable. Full tables were constructed for four individuals. With 10 clicks the following vacant interval to be judged equal to it must be extended to the time of 14 to 18 clicks. 15 clicks seemed equal to the time of from 16 to 19. Preliminary experiments upon other individuals indicate that these differences are extreme. If the absolute length of interval is increased beyond from 1 to 3 secs., the illusion is less. It is also less if the clicks are very near together. The illusion still holds, but is diminished, if, instead of comparing clicks and a vacant time, more or less frequent series of clicks are compared. In these observations also, the time between the two intervals became quite important. In general the illusion was less if this time was short, but if less than about $\frac{3}{4}$ of a sec. the illusion again became greater. Indeed in a few cases an indifference-time was found in which little or no illusion took place. This entire illusion, however, is reduced to a minimum, and with some persons vanishes, if the order of the terms be reversed, *viz.*, if the vacant or less-filled interval precedes.

THE TIME IT TAKES TO SEE AND NAME OBJECTS.

By James McKeen Cattell.

The relation of the sensation to the stimulus and the time taken up by mental processes are the two subjects in which the best results have been reached by experimental psychology. These results are important enough to prove those to be wrong who with Kant hold that psychology can never become an exact science. It would perhaps be convenient to call the work done by Weber, Fechner and their followers in determining the relation of the sensation to the stimulus Psychophysics, and to confine the term Psychometry to the work done by Wundt and others in measuring the rapidity of mental processes. Psychometry seems to be of as great psychological interest as Psychophysics, but it has not been nearly so fully and carefully worked over. This is partly due to the difficulties which lie in the way of determining the time taken up by mental processes. Such a time cannot be directly measured; the experimenter can only determine the period passing between an external event exciting mental processes and a motion made after the mental processes have been completed. It is difficult or impossible to analyse this period, to give the time required for the purely physiological operations, and to decide what mental processes have taken place, and how much time is to be allotted to each. Experimenters have also met with two other difficulties. The physical apparatus used seldom produces the stimulus in a satisfactory manner or measures the times with entire accuracy, and must be so delicate and complicated that it requires the greatest care to operate with it and keep it in order. The other difficulty lies in the fact that the times measured are artificial, not corresponding to the times taken up by mental processes in our ordinary life. The conditions of the experiments place the subject in an abnormal condition, especially as to fatigue, attention and practice, and the method has often been such that the times given are too short, because the entire mental process has not been measured, or too long, because some other factor has been included in the time recorded. Considering therefore the difficulty of analysing the period measured, the inaccuracies of the recording apparatus, and the artificial and often incorrect methods of making the experiments, we have reason to fear that the results obtained by the psychologist in his laboratory do not always give the time it takes a man to perceive, to will and to think. Wundt has done much toward obviating these difficulties, carefully analysing the various operations, and improving the apparatus and methods. It has seemed to me, however, worth the while to make a series of experiments altogether doing away with involved methods and complicated apparatus, and looking to

determine the time we usually require to see and name an object, such as a letter or a colour.

(1) I pasted letters on a revolving drum (a physiological kymograph) and determined at what rate they could be read aloud, as they passed by a slit in a screen. It was found that the time varied with the width of the slit. When the slit was 1 cm. wide (the letters being 1 cm. apart) one letter was always in view; as the first disappeared the second took its place, &c. In this case it took the nine persons experimented on (university teachers and students) from $\frac{1}{3}$ to $\frac{1}{5}$sec. to read each letter. This does not however give the entire time needed to see and name a single letter, for the subject was finding the name of the letter just gone by at the same time that he was seeing the letter then in view. As the slit in the screen is made smaller the processes of perceiving and choosing cannot so well take place simultaneously, and the times become longer; when the slit is 1mm. wide the time is $\frac{1}{2}$sec., which other experiments I have made prove to be about the time it takes to see and name a single letter. When the slit on the contrary is taken wider than 1 cm., and two or more letters are always in view, not only do the processes of seeing and naming overlap, but while the subject is seeing one letter, he begins to see the ones next following, and so can read them more quickly. Of the nine persons experimented on four could read the letters faster when five were in view at once, but were not helped by a sixth letter; three were not helped by a fifth and two not by a fourth letter. This shows that while one idea is in the centre, two, three or four additional ideas may be in the background of consciousness. The second letter in view shortens the time about $\frac{1}{40}$, the third $\frac{1}{60}$, the fourth $\frac{1}{100}$, the fifth $\frac{1}{200}$sec.

(2) I find it takes about twice as long to read (aloud, as fast as possible) words which have no connexion as words which make sentences, and letters which have no connexion as letters which make words. When the words make sentences and the letters words, not only do the processes of seeing and naming overlap, but by one mental effort the subject can recognise a whole group of words or letters, and by one will-act choose the motions to be made in naming them, so that the rate at which the words and letters are read is really only limited by the maximum rapidity at which the speech-organs can be moved. As the result of a large number of experiments the writer found that he had read words not making sentences at the rate of $\frac{1}{4}$sec., words making sentences (a passage from Swift) at the rate of $\frac{1}{8}$sec. per word. Letters not making words were read in $\frac{1}{40}$sec. less time than words not making sentences; capital and small letters were read at the same rate, small German letters slightly and capital German letters considerably more slowly than the Latin letters. The experiments were repeated on eleven other subjects, confirming these results; the time required to read each word when the

words did not make sentences varying between $\frac{1}{4}$ and $\frac{1}{2}$sec. When a passage is read aloud at a normal rate, about the same time is taken for each word as when words having no connexion are read as fast as possible. The rate at which a person reads a foreign language is proportional to his familiarity with the language. For example, when reading as fast as possible the writer's rate was, English 138, French 167, German 250, Italian 327, Latin 434 and Greek 484; the figures giving the thousandths of a second taken to read each word. Experiments made on others strikingly confirm these results. The subject does not know that he is reading the foreign language more slowly than his own; this explains why foreigners seem to talk so fast. This simple method of determining a person's familiarity with a language might be used in school-examinations.

(3) The time required to see and name colours and pictures of objects was determined in the same way. The time was found to be about the same (over $\frac{1}{2}$sec.) for colours as for pictures, and about twice as long as for words and letters. Other experiments I have made show that we can recognise a single colour or picture in a slightly shorter time than a word or letter, but take longer to name it. This is because in the case of words and letters the association between the idea and name has taken place so often that the process has become automatic, whereas in the case of colours and pictures we must by a voluntary effort choose the name. Such experiments would be useful in investigating aphasia.

A more detailed account of these experiments, and of the methods used, will be found in Wundt's *Philosophische Studien*, ii. 4.

VI.—DISCUSSION.

FEELING AND EMOTION.

By H. M. Stanley.

As Prof. Wundt well remarks, the chapter on the Feelings is one of the darkest in the history of psychology, and Dr. Nahlowsky speaks of the feelings as a world the entrance to which is as dark as that of the Hades of old. Prof. Wundt gives three divisions of psychologists with respect to their treatment of the feelings: first are those who have treated feeling as the deepest activity of the cognitive faculty; second, those who make feeling depend on "interaction of presentations"; third, those who emphasise feeling as subjective complement of "objective sensations and representations". The fundamental distinction is, however, deeper than these distinctions with reference to the relation of knowledge and feeling; it is that of spiritual and physiological treatment.

Psychologists as a whole are divided into the two schools, physiological and spiritual, and the treatment of the feelings varies most manifestly between them. The one school emphasises the objective side, the other the subjective. The physiological school relates all feelings, higher and lower, to the organism; while the spiritualistic school connects the lower feelings with the organism, but the higher, as love of truth, &c., are related only to the spiritual nature. With the physiological school, feelings are merely the subjective side of objective changes, are determined by the objective; with the spiritual school, subjectivity perceives and determines objectivity. With the physiological school there is a hard and fast pre-established harmony of subjective and objective changes, but the subjective face is incidental concomitant or function of the objective; with the spiritual school, all is ideal and subjective, or at least the subjective moulds the objective and expresses itself in the material.

What is the nature of an emotion? Most psychologists are content to simply refer us to our own conscious experience, as Messrs. Bain, Allen and Thompson. Mr. Spencer seeks to go deeper. All states of consciousness are divided by him into feelings and relations between feelings, which last mean, of course, as he admits, relational feelings. Every state of consciousness is such by virtue of its having a relational or cognitive element. Some states are more relational than others, but none are absolutely non-relational; thus the sense of smell is less relational than that of sight, but still to some extent relational. Every feeling is thus feeling of something and has cognitive value. The non-relational element is feeling proper, and may be sensa-

tion—peripherally initiated, or emotion—centrally initiated. This physiological definition does not clear up the psychological nature of emotion. Mr. Spencer mixes up physiological and psychological classifications. After dividing physically into peripherally and centrally initiated, he then divides these transversely into actual and ideal, or vivid and faint, or presentative and representative. If mind be built up, after the Humist fashion, of impressions and ideas, it is evident that the fundamental psychological division is this into presentative and representative (at any power). The emotions belong to the latter class.

We are now led to ask, What is the essence of feeling as such, whether emotion or sensation? What makes feeling, feeling? and the answer is, as we have seen, the negative distinction of non-relational. If with Hamilton and Mr. Spencer we emphasise the nature of feeling as subjective and non-relational, it seems evident that the growth of mind has been from an almost complete subjectivity of feeling to a very considerable degree of objectivity in perception. We may believe with Mr. Spencer in the subject-object nature of all consciousness, and yet insist on this law of the growth of mind, which is, perhaps, noticed by Mr. Spencer only indirectly in his discussion of correspondence. In the lowest forms of consciousness, as seen in low forms of animal life, consciousness is, no doubt, maximum of subject and minimum of object. There is probably but little localisation of feeling, pain and pleasure being mostly organic. The externality of its body is but vaguely known, if known at all, and externality beyond is not recognised. We view our hands as in a measure external; the lowest animal feels its body as itself, does not in proper sense perceive its body. Its consciousness is, as it were, part and parcel of matter, and it is only in higher forms that consciousness rises to a perception, to a knowledge of itself over against object. In the progress of mind feeling decreases, cognition increases, till, as in scientific human eyesight, perception becomes almost pure from feeling.

Mr. Spencer is inclined to believe that each state of consciousness as subject-object relation is compounded of the feeling and the relational element, knowing; but it seems rather more probable that in the final analysis feeling and knowing are to be considered as closely consecutive states, feeling being precedent in the order of evolution. The subjective is first wakened—first feeling, then knowing. The earliest stages of psychical life in the young of the human species and higher animals is almost purely organic sensation, perception rising later, and we judge that the history of the individual is indicative of the history of the race. At least we may say this, that the earliest psychical life is prevailingly that of feeling, because perception, if it in any true sense occurs, is speedily obscured by feeling leading to the action demanded in the struggle for life. The necessary immediacy of reaction in presence of environment in early life is secured only through

feeling as stimulating will. Feeling, as the egoistic, personal and subjective determination of mind, must increase according to law of self-preservation; but, while the subjective bearing must always be kept in mind by the element of feeling, still the law seems to be—that immediate personal reaction, impulsiveness, is relatively unsuccessful, and the objective side of mind, the intellectual, tells most in the conflict of life, though this becomes useful only through the element of feeling. Feeling in the progress of mind then takes up less and less space and time in consciousness, and the objective relational element more and more space and time; but feeling always remains as deep and determining factor. The evolution of intense personalities can only be through subjectiveness of feeling. Dr. Nahlowsky, while emphasising feeling as subjective and knowledge as objective elements, would make will subjective-objective element of mind. But it is evident that will and feeling belong together as subjective. Will is subjective-objective only as it is teleological, or involves knowledge; but this is true of most determinations of developed consciousness—whether volitions or emotions.

We cannot then, perhaps, reach a deeper analysis than this—to consider feeling as subjective element in consciousness; but we may inquire in what form feeling is primitive. Pleasure and pain have been considered primitive by many psychologists, and all feeling may be considered as developed pleasure and pain. Mr. Spencer views pleasure and pain as concomitants of emotions, and not the emotions themselves. But it seems more correct to regard pleasure and pain as primitive and fundamental feeling, out of which through differentiation by knowledge proceed all feelings. Psychical life in its lowest forms seems to be mainly pleasure and pain simply as such, without perception of the pleasurable and painful. There is merely pleasure and pain, and not the pleasurable and painful. Pleasure and pain appear in all feeling, and, as far as there is subjective reference, throughout all mental life, although often almost hidden in consciousness. There is, indeed, mathematically considered, an indifference-point where pleasure and pain meet, but psychologically considered every state of consciousness is to be characterised as pleasurable or painful. Feelings may be apparently and in the popular sense of the word indifferent, but never so psychologically and scientifically indifferent as Prof. Bain claims. Careful analysis will, we think, show that absolute indifference is nowhere to be found in consciousness. The subject always has a certain tone, which, whether distinctly recognised or not, remains as an essential element of consciousness. That pleasure and pain seem concomitant to emotions, arises from the fact that most, if not all, the feelings in developed consciousness, to which we naturally refer, are very complex. Anger, so far as it is feeling, is pain, to which is added the will-element of hostility and a quite distinct perception of object of the anger. How much know-

ledge enters into our common conception of emotion is negatively evident from the phrase 'blinded by passion' which is applied to one who has almost lost the relational element from consciousness. Emotions in the higher stages are filled out by knowledge and will, but if we extract the pure feeling from any given emotion, we can have as mere subjectivity only pleasure and pain. When objects come clearly before the mind, the accompanying pain or pleasure is recognised in memory as coloured by the object, by knowledge. We feel pain differently through perception by eye and ear; but where there is no eye or ear, distinctions of this kind must disappear. And so we recognise that psychical life is at bottom and in its earliest forms simply pleasure and pain with little or no differentiation from objects. Developed psychical life perceives, feels, wills; undeveloped psychical life feels, wills, perceives. The unfeeling stone is not roused to self-preservation by feeling, it passively endures its fate. The animal, however, through feeling reacts by locomotion or self-defence and preserves itself. Thus by virtue of feeling there exist in nature active beings which have a worth of being in themselves.

Feeling then, we conclude, is the purely subjective factor in consciousness; and *per se*, both as developed and undeveloped, is merely pleasure and pain. The older psychologists, as Spinoza and Leibniz, were inclined to view the feelings as inadequate or confused ideas. This view was easily suggested by the fact that in intense subjectivity of feeling perception is obscured, but this does not help us to any clear conception of the nature of feeling, which is best gained through studying the history of mind. We will now consider some aspects of the perplexing subject of Emotion and its expression.

Theories of expression are plainly divisible according to the method of treatment by spiritual and physiological schools respectively, according as the relation of mind to body is regarded as initiative, or as concomitant or resultant. Expression in literal significance, according to common opinion, and as urged by the spiritual school, is subsequent on, and determined by, emotional consciousness. It is the bodily *expression* of mental action. With the other school the physiological factors are the determining ones. Descartes viewed the passions as reactions from the body. Expression is connected with physical support by Prof. Bain. Prof. James makes feelings reflexive movements in consciousness due to the so-called expressions. Hamilton makes feelings of pleasure and pain reflexive, not only, however, of impeded or unimpeded bodily movements, but also and primarily of impeded and unimpeded conscious activities, and he belongs then rather to the spiritual school. Mr. Grant Allen has extended the physiological explanation to the feeling of beauty, and intimates that all the higher feelings have their true philosophy in this point of view. Prof. Wundt views feelings as reactions from sensation.

Prof. James's theory (MIND XXXIV. 188) is that expressions, instead of being determined by the emotions, determine them. We do not strike because we are angry, but we are angry because we strike. This involves the general theory that body not mind is determining factor; that emotions, &c., are merely subjective side of objective changes. The opposite theory is that the expressions, neural changes, &c., are but objective side of subjective changes, *e.g.*, of emotions. From the point of view of consciousness we speak of expressing our emotions, but from the real point of view, according to Prof. James's theory, we should speak of emotions being expressions in consciousness of our bodily activities. This is a thorough and logical carrying out of the physiological point of view, which should emphasise not only nerve-states as objective support of conscious states, but also muscular and organic states. Mind as series of subjective changes finds its objective support in body as a whole, and not in nerves merely. To consider this general attitude of thought would call for too extended discussion. It is sufficiently evident that, approaching from the objective physiological side, this treatment of emotion as concomitant and resultant of not only neural but general bodily activities, known from the psychological point of view as expression, is inevitable. Let us notice this position, however, from the point of view of consciousness.

Prof. James points to the fact that exercising the expressions or imagining the feeling calls up the feeling, as a proof of his theory. This, however, is merely a matter of association, and can prove neither a real precedent nor resultant. We may call up ideation as well as emotion by producing associated activities. In the interdependence of the conscious life, emotion, perception and willing call up each other without reference to causative order. Any one element of consciousness may be regarded either as resultant or stimulant according as we look at preceding or following state of consciousness. In the order of evolution, pain and pleasure arise from certain actions to inhibit or stimulate repetition of actions. Feeling is then both resultant and stimulant. The emotions may arise from the expressions by association, but the original dependence is that of expression on emotion. The further test, that we cannot imagine an emotion without bringing in bodily presentation, is simply a necessity of imagination as such, and due to association and organisation.

In common language emotion is made precedent to expression, and this is the psychological standpoint. We speak continually of venting anger, giving expression to feeling, giving way to our emotions, &c. The will represses, expresses or impresses emotions. When the bodily expression is not allowed there is rankling, when repressed thoughtfully and measurably there is repression, of emotion; when expression is allowed in measure there is relief, when expression is uncontrollable there is exhaustion; when an emotion is desired, the will by repeating known

expressions may impress emotion into its forms. Simulating expression is the actor's art; but when the simulation is forgotten by either actor or audience, nature appears and art disappears. Simulation of expression leads easily to feeling and to natural expression by the principle of association. Emotion may then be directly stimulated or repressed, or indirectly through expression. Excitement may be stopped by mental measures or by deep inhalations. Expression may be expressive to the individual and not to others, for example, when the heart jumps into the throat; to others and not to the individual, as very often in the knitting of the brow; to both, as in gesture.

Darwin relates emotions to expression by three principles: first, principle of survival, or as he terms it, "serviceable associated habits"; second, principle of antithesis; third, principle of direct action of nervous system. The evolutionary principle of survival bids fair to be a very important factor in explaining expressions. According to this principle we seek to explain many expressions by studying their history, and many expressions are then found to be what we may term degraded actions. When feeling arises, the old associated actions, now disused, tend to follow as survival in degraded form. The running from feared object was for self-preservation, and this running, of course, accelerated the action of the heart and connected organs, with depression of more remote organs. The throbbing of heart, &c., as expression of fear, are then survivals of the running of generations of ancestors. We may remark in this connexion that expression as partial may act in accumulatory manner, as when in fear there is throbbing of the heart, which acts, not in serving the limbs as originally, but in adding to mental excitement. Sufficient attention has not, perhaps, been paid to what we may term the negative or passive expressions which are due to excessive withdrawal of blood from certain organs by other organs for active expression. Emotions in any high degree almost always enhance some function to the depression of others. Just why there should be the particular depression, must be determined by physiological research. Pallor from fear may be regarded as a negative expression. Darwin enumerates as unexplained expressions, "change of colour in the hair from extreme terror or grief—the cold sweat and the trembling of the muscles from fear —the modified secretions of the intestinal canal—and the failure of certain glands to act". (*Expression of the Emotions*, 350; but cp. 81.) It may be that some or all of these are negative or secondary expressions, due to abnormal lowering of certain functions through abnormal heightening of other functions in primary and positive expression. It seems to us at any rate that this distinction of positive and negative expressions is worthy to be made and may be useful.

If many expressions of emotion are degraded actions in survival, it is plain that the emotion cannot be the reflex of the

expression. The expression, on the other hand, is the reflex or result of the emotion ; it is the survival of the associated past actions which were originally consequent on a given emotion. This law of survival accounts for much that Prof. James seeks to account for by his theory ; it gives account of the expressions not as causative, but as identifying them with common actions. To be consistent then, Prof. James must make all actions determine emotions, since expressions are reduced to actions. His theory is the reverse of Mr. Spencer's by making emotions peripherally not centrally initiated.

This leads us naturally to consider Darwin's third law, the principle of superfluous energy issuing in expressive actions, which is also insisted on by Prof. Bain and Mr. Spencer. If expressions are resolved into actions, the law of action, efflux of energy, is the law of expression. If actions be viewed as centrally initiated, we know that there must be accumulation of nervous energy sufficient to discharge itself along muscles, &c. Nervous energy, as the concomitant of mental excitement, will, says Mr. Spencer, discharge itself along lines of least resistance, along the smaller muscles and those most habitually used. From the latter law arise what we may term individual expressions, due to the habits of the individual ; for example, under slight nervous tension one man will move his legs, another his arms. Emotions then lead often unconsciously and in a motiveless manner to usual activities. The term 'expression' had best, we think, be distinguished from action in the proper sense. A man may be walking fast from excitement, and the walking would then be called an expression ; but the running of a man to catch a train would hardly be called an expression. Teleological action is then set off from expression. But unteleological action cannot always be termed expression, so far as it is merely instinctive, and not indicative of conscious life at all. Expression is an indefinite region between instinctive and teleological action ; it is action, but degraded action of the survival or habitual type.

Darwin's second principle, that of antithesis, is in reality not a principle, but a fact. We act in expressing emotion in opposite ways, not because the ways are opposite, but inevitably from opposite stimuli. It is merely a natural fact that opposite emotions find opposite expressions. A principle of likeness would on the same basis be required, but this like that of antithesis is a fact, not a principle.

Prof. Bain insists upon three principles of expression—spontaneity, diffusion, and pleasure and pain. Spontaneity is to be taken into account by way of subtraction from expression. A man in delirium manifests a great variety of movements which are not expressive, because there is nothing to express. In the play of children there is overflow of nervous energy into natural channels, but the movements are not properly expressive. Prof. Bain maintains that in joy, for instance, this element must be

subtracted in order to gain the amount of real expression. It may be necessary to subtract on the principle of spontaneity, but not we think as unexpressive. Play is expressive of the emotion of high spirits, and is to be subtracted from the expression of joy with which it is often associated. Spontaneity is not a principle then of the relation of expression to emotion, unless it be called a principle that various emotions and expressions are often very closely associated, and the value of each must be determined by analysis and by the subtraction of the others.

The principle of diffusion is the principle of surplus of nervous force which is insisted on by Darwin and Mr. Spencer. The principle of pleasure as the enhancement of function, and pain as the depression of function, Prof. Bain declares to be fundamental in determining expression. He opposes Mr. Spencer's law that intensity of expression is as intensity of feeling, by modifying the word feeling with the word pleasurable. That the character of the feeling as pleasurable or painful should affect very deeply the character of the expression is to be expected according to evolution. Pain will produce contractive, defensive, remedial measures; pleasure, expansive measures. This is implied in the view of expression as degraded action. Again, actions following from pains or from pleasures would be antithetical; and thus Darwin's principle of antithesis is easily placed by Prof. Bain. That which injures the organism produces pain, but this pain is reflex from the organism, and the functional derangement is cause, not expression, of feeling. Now actions are put forth upon the stimulus of this painful feeling, and these actions may become expressions. This functional depression, causative of the feeling, is, perhaps, confounded by Prof. Bain with expression. Pain is accompanied by functional derangement—not necessarily depression, as Prof. Bain emphasises—in the part from which pain arises, but this is not to be confounded with expression proper. Pain is often stimulant to the organism as a whole, lifts the tone of the organism, as in the cut of a whip, although there be derangement in single part at the skin. The painful feeling and the pleasurable alike express themselves by intensity, local or general, not by depression, for only thus can there be positive and hence negative expression. There must be an arousing of nervous energy in order to any expression. Thus Mr. Spencer's law is applicable. The general law of expression is simply that conscious state as feeling is stimulant and directive of action whether the feeling be pleasurable or painful.

Prof. Bain tends to look upon expression, not as we have treated it, as consequent of conscious state, but as "incidental to physical support" (*Senses and Intellect*, p. 704). But physical support as basis of conscious states is to be carefully distinguished from *expression*. Feeling, as conscious state, has a physical substratum and it has an expression. The expression is properly that action which

has been, is, or may be under the control of the will. The angry man may be angry and restrain expression, but, as long as he is angry, there will be a certain physical substratum of the mood, a certain state of the nerves and of the cerebral circulation.

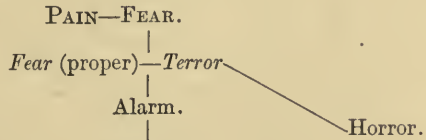
We shall notice in conclusion the subject of the Classification of the Emotions. The feelings—and we have used the term emotions as in general synonymous—have been most variously divided. Spinoza in the *Ethica* develops a classification from the primary feelings, pleasure, pain and desire, through modification by the inadequate, the rational and the intuitive ideas. Hamilton grounds his divisions of the feelings on his divisions of the other powers of the mind, for feeling is with him mere adjunct of other powers, contemplative and practical. Dr. Nahlowsky divides into simple and complex, and also into active and passive. Mr. Spencer divides variously, "as central or peripheral, as strong or weak, as vague or definite, as coherent or incoherent, as real or ideal" (*Psych.* i. 272). He adds agreeable and disagreeable feelings; and works out the distinction of real and ideal into presentative, presentative-representative, representative, re-representative. This purely psychological classification gives the order of evolution of feelings in a very general way, but Mr. Spencer enters upon no detailed examination of the feelings. Prof. Bain claims to be in substantial agreement with Mr. Spencer, but his eleven genera appear rather heterogeneous and only in a vague way evolutionary. Mr. Spencer (*Essays*, ii. 120) approves of Prof. Bain's idea of a natural-history classification, but points out that Prof. Bain has not worked out the ideal, giving merely a "descriptive psychology": a true evolutionary classification should be founded on study of "the evolution of the emotions up through the various grades of the animal kingdom," study of "the emotional differences between the lower and higher human races," and lastly, by observing "the order in which the emotions unfold during the progress from infancy to maturity". It is much to be regretted, however, that Mr. Spencer has not taken up the emotions in detail. He has given us mere rough divisions, not a classification.

Mr. Mercier's classification, as worked out in MIND XXXV.-VII., is very elaborately and carefully done. He gives a more thorough natural-history classification than any which has yet been set forth, giving classes, sub-classes, orders and genera. Many of the Tables are very ably worked out, but it would not be hard to criticise. Table iii. is particularly suggestive, but it may be doubted whether certain of the feelings, as Courage and Sense of Victory, always have relation to self-conservation. Again many higher and late developed feelings creep into the earlier Tables, as Resignation and Meekness into Table iii., which is somewhat like putting the cat among the radiates. We, of course, recognise that late forms may belong to early types, but this will not

account for such instances as these. In Table ii. the grand division is according to agent and event, but in low forms of psychical life there is no such thing as event—all is animate. In this and other Tables it is evident that Mr. Mercier has taken on the whole a statical rather than an evolutionary point of view. The classification is primarily logical and descriptive rather than genetic. Again feelings which are nearly akin in essence and expression are separated; as, for example, it is to be doubted whether Terror, Horror and Dread should be respectively assigned to different genera.

It may be a question how far a natural-history classification can be applied to psychological matters. If it be the true method, we must apply it throughout to all forms of consciousness, and if, as we have contended, feeling as feeling is only pain and pleasure, is pure subjectivity, but is differentiated through knowledge and will, then the classification of the emotions is dependent on the classification of the cognitions and the volitions. We are not inclined to accept Hamilton's classification formed on this principle, because it is not evolutionary. Knowledge is mingled with most of the feelings as treated by Mr. Mercier, and his method of classifying by object of feelings emphasises this; but, however valuable and suggestive, his classification remains faulty in content, method and form. It is faulty in content primarily because it does not have regard to psychological classification as a whole, without considering which it is as impossible to come at satisfactory results as if we should attempt to classify vertebrates by themselves. As all animals constitute a kingdom, the whole of which must be kept in mind by the classifier, so states of consciousness constitute such a whole, such a unit, that the classifier must attack all psychological states in order to form a satisfactory classification of any one group, as emotion. The method also does not make sufficient use of comparative psychology. The nearest approach to a truly evolutionary form in classification is, perhaps, that modification of Prof. Huxley's, which Mr. Spencer sketches in his *Biology*. Mr. Mercier's classification, as it lies, is linear, but the Tables, the author insists, must be combined in imagination into a tree-like form. Just what this form is, it is rather difficult to carry in mind, and it is to be hoped that Mr. Mercier will sketch it out in full.

We may illustrate roughly our notion of what a classification of the Emotions might be in this manner.



It has been urged that pleasure and pain make up feeling as feeling. The first differentiation of Pain is through cognition of object painful. This state is Fear. Difference in intensity is developed very early, so we have Terror and Fear proper. Cognition of time soon differentiates—under immediate form as Alarm and under more distant form as Dread. Far later Horror as altruistic form of terror will arise. We merely give this as an approximate illustration of the correct form and method of evolutionary classification. The development of mind as a whole must be followed. Pleasures and Pains would appear as the two great correlated classes into which the emotions would divide, and each would in interdependence be differentiated by the forms of cognition and volition as these severally arise.

MR. MERCIER'S CLASSIFICATION OF FEELINGS.

By Carveth Read.

A plan of classifying the Emotions, or rather of providing a substitute for such a classification, had occupied me for some time, when there appeared in Mind a series of remarkable and in many ways admirable articles on the Classification of Feelings by Mr. Mercier: articles of such excellence that it would have been absurd to proceed with what I had to say without some examination of them. And whilst the publication of my own notions is still unavoidably postponed, it seems best to print at once the following controversial matter. Mr. Mercier begins by professing a general adherence to Mr. Spencer's psychology, and to the principle of Evolution; but, finding some fault with that philosopher's classification of Feelings, he proposes to set forth another more in accordance with the rest of the system. The objections he raises against Mr. Spencer's doctrine as expounded in *Psychology*, § 480, must be allowed, I think, to have some foundation in the text. He shows that the same feeling, Terror, may be classed as Presentative-representative, Representative, or Re-representative; and that feelings so different as Blueness and Triumph seem to be sometimes included in one class (Mind XXXV. 326-8). Confining attention to § 480, these objections seem pertinent; but this leads me to make three remarks. First, Mr. Spencer in classifying feelings has not resorted to as much abstraction as he might legitimately have done, but has rather dealt with total states of consciousness. Thus Terror at sight of a snake, Terror at thought of a snake, and Terror without definite occasion on going into the dark, seem, as Mr. Mercier points out, to be placed in three different classes. But surely the element of Terror is the same in all these cases; and, as to the ancient essential body of it, is in each case of the same degree

of representativeness. Secondly, Mr. Spencer has unfortunately omitted in this passage to remind his readers of the distinction (prominent enough in earlier sections) between feelings peripherally and centrally initiated. This distinction of course traverses those that have respect to representativeness, and had Mr. Mercier remembered it he would not have thought Mr. Spencer unable to separate Blueness and Triumph; for, when both are representative, Blueness is definitely representative of one sort of peripheral feeling, whereas Triumph (though, in its several elements, remotely) is not as a whole definitely representative of any peripheral feeling. It would be well, I think, to make the distinction of Peripheral and Central Excitation fundamental, and ground that of Representativeness upon it. Blueness and Triumph would then appear to be separated not merely by specific difference, but as belonging to different orders. Thirdly, what I have just said must occur to any one who reads § 480 by the light of § 481. For we there learn that the chief value of Representativeness as a principle of the classification of states of consciousness, arises from its generally implying corresponding degrees of integration, definiteness and complexity. Now this is, no doubt, true in some sort of either peripherally or centrally excited feelings in classes severally, but not if we take them together. The power of sustaining the feeling of Blue in idea implies a greater integration of consciousness than does the feeling of Blue from immediate stimulus; but is the idea of Blue to be compared with Terror in respect of integration and complexity? To compare the two great orders of peripherally and centrally excited feelings with respect to definiteness seems merely inappropriate: since in the former case definiteness is understood of comparison or relationality; in the latter it means speciality of impulse or of the control of conduct.

The explanations of Mr. Spencer's doctrine which I have now offered will, I hope, serve to parry Mr. Mercier's objections to it; and, by way of a general excuse for the criticisms which I purpose making upon the latter author's classification of feelings, I may say that Mr. Spencer's classification seems to me, as far as it goes, a more natural outgrowth of his own system and of the principle of evolution. Mr. Mercier complains (p. 329) of Mr. Spencer's not explicitly expressing the emotional element of mind in terms of the correspondence between the organism and its environment (though he admits that this seems to be taken for granted), and consequently of classifying feelings "from a standpoint mainly subjective". But this is hardly just. The terms Presentative-representative, Representative, Re-representative have an objective reference. They denote stages in the growth of feeling, accompanying the organisation of cognitions, during the extension and increase of the correspondence (between minds and the world) in space, time, speciality, generality, complexity, as set out in *Psych.*, Part iii. Bearing this in mind, we shall easily detect

an error in Mr. Mercier's first principle, which will explain most of the shortcomings in his classification. "Feeling," he says (p. 331), "is the correspondence of states in the organism with interactions between the organism and the environment." Feeling then "must vary as this interaction varies, and it must be possible to obtain a classification of feelings from a classification of the actions". Now, waiving other remarks that might be made upon this statement, we must observe that it omits a most important qualification. It should be enlarged as follows (to begin with his own words): "It must be possible to obtain a classification of feelings from a classification of the interactions" *in all their degrees of extension in space and time, and in all their possible combinations special, general and complex.* Whoever refers to Mr. Mercier's classificatory Tables may judge how far they realise such a principle as this. From them we might suppose that the forces of the environment only approach the organism in single file; that the organism deals with the environment by a series of uncoordinated movements; and that our feelings, just as distinct and structurally on a level, pair off with these interactions. But surely the conduct of life is not so easy, and we are not so simple-minded.

Taking the above principle as amended, observe its impracticability. All the interactions of organism and environment, in all degrees of remoteness and combination, would be hard to classify in any detail; and if they were so classified we could not presume that corresponding with every member of the classification there would be recognisable a variety of feeling. Accordingly, whilst keeping in view (as Mr. Spencer has done) the objective reference of feeling, the basis of any treatment of the feelings (whether a classification or some substitute for one) must be subjective. We must begin with the feelings as given by introspection; and, having made a first distribution of them according to their apparent agreements and differences, we must let them guide us to the circumstances of their origin and growth; whence we may learn further and better particulars to correct our first impressions. Of this work a good deal has been done already, partly as usual by common sense, partly by scientists. We have not to build a new house on a sand-patch of our own reclaiming, but to lend a hand to the workmen upon a public edifice.

If the application of Mr. Mercier's principle according to its complete statement is impracticable, what are the results of working it out in the imperfect form which it has in his articles? Let me begin by drawing attention to some improvements that might perhaps be made in his classification without regard to its principle. And, first, some alterations seem desirable in naming the feelings themselves. Feelings that are excited by interactions differing only in degree of energy, whilst similar in kind and in circumstances, usually themselves differ only in degree, and should be designated accordingly. Thus in Table iii. (p. 345)

Hate, Fear, Terror, would be better called Fear of the 1st, 2nd, 3rd degree; Suspicion, Apprehension, Hope, would be better as three degrees of Apprehension; Mortification, mentioned twice, Defeat, Despair, as four degrees of Defeat. Other similar cases might be shown, but these will serve to illustrate my meaning. The adoption of this plan of naming would further facilitate the avoidance of unsuitable names. Hate is very unsuitable for the 1st degree of Fear, being at least as much akin to Anger, and moreover no mere transitory feeling, but a settled affection or disposition to irascible feeling of peculiar character. Suspicion, too, is properly a feeling that arises not so much from the uncertainty of a cognition in regard to a noxious agent as from a belief in the cunning and secrecy of its attack. And what shall we say to Hope as aroused by the uncertainty of the cognition of an overwhelming noxious agent? Several other names in Table iii. alone seem ill-chosen—as Resignation, Courage, Mortification, Meekness, Resentment, Contempt, Scorn.

Again, some Feelings are misplaced, of which the worst case is that of Religion (MIND XXXVII. 17), classed amongst feelings corresponding with interactions neither conservative nor destructive, as genus 4—"the relation of the organism to the unknown". Surely this is following Mr. Spencer where he is least to be followed. Even granting the soundness of his argument in *First Principles*, Part i., it must still be remembered that feelings respond not to facts but to cognitions, and that the religious object has very rarely hitherto been cognised as unknown. The place of Religion seems to be amongst the first order of Social-conservative emotions of Table i. (p. 4); where in fact we find Piety, though in what exact sense is uncertain. The religious cognition has indeed rarely been of an agent steadily beneficent to the community (as Mr. Mercier makes the object of Piety to be), but rather of one whom it was important to keep so as much as possible. But that the feeling is of a social nature is shown by its being reached apparently only at a certain stage of social growth, by its rites, by its contagiousness, by early gods being often (if not always) ancestors or kings, by the differentiation of social sections to maintain public worship, and by its being in general a supplement of law: though in its later growths it may aid in reforming law, as in our Puritan rebellion, when 'men of religion' beat the 'men of honour'; which, I think, by a sense of the unknown they would hardly have accomplished. Such reflections suggest that the view of Martyrdom (p. 12), as a sense that public reprobation is undeserved, must be inadequate: has it not rather been hitherto a sense of 'the perfect witness of all-judging Jove'? As to the connexion of Religion with Art, which Mr. Mercier points to in justification of his classing, that is only to a small extent directly psychological, chiefly historical; priesthoods having alone had in early times the culture, wealth and leisure requisite for elaborate Art.

Striking omissions from this scheme are perhaps not numerous. I note chiefly Sociality, the feeling that grows from the mere presence of the community, and which is most noticeable in the effect of the absence of its conditions, producing home-sickness, distress of exile, *Heimweh*. Sympathy, too, or rather the sympathetic transfiguration of other feelings is wanting :— the name Sympathy at p. 15, Table xiv., should surely be Compassion. *Weltschmerz* deserves recognition now-a-days. So I think do Malice and Malevolence in Table xiv. of the Sympathetic Feelings. Loyalty, too, and the peculiar class-feeling of Honour or 'the point of Honour', should appear in the social group. Perhaps the great generality, speciality or indirectness of some of these led to their being overlooked.

I now come to objections which seem to me to lie against Mr. Mercier's classification because of the principle on which it is based. We saw that that principle fails to take account of the remoteness, speciality, generality and complexity of some of the interactions between the organism and the environment. Mr. Spencer has shown at great length how a cognitive correspondence of the organism to the environment develops; and, though I cannot point out any explicit statement of his that alongside of the cognitive an emotional correspondence grows up, I believe every one will admit that this is a part of his doctrine ; and that the two parallel growths proceed upon similar principles, namely, by the integration of simpler cognitions on the one hand, and of simpler feelings and groups of feelings on the other, into more special, general, complex cognitions and emotions. It follows from this (as Mr. Spencer shows) that neither Emotions nor Cognitions[1] can, except in the crudest way, be classified at all, because they cannot be separated.

[1] This seems a good place to notice Mr. Mercier's earlier classification of Cognitions in MIND XXX., p. 260-7. He there criticises Mr. Spencer's classification of Cognitions according to representativeness, much as we have seen him above take exception to Mr. Spencer's classification of Emotions ; but with less force, and in a style less safe from the charge of being merely verbal. Mr. Mercier regards the fundamental distinction of cognitions as lying between those that establish a new relation in consciousness, and those that merely revive a former one : degree of representativeness he admits as a principle for subdividing these main classes. But he seems to admit also that in every cognition there is some element of novelty ; which requires the establishment of a new relation in consciousness : and plainly the seriality of consciousness makes it impossible to have twice an identical experience. Now cognition is the classification of experiences ; which will vary from the most particular recognition to the most abstract subsumption ; will vary too in the complexity of the terms and relations classified : and of these variations representativeness seems the best mark. I may add that as Cognitions, like Emotions, develop by integration and by differentiation from common bases, they too can be only very imperfectly classified ; and although a tabular scheme of their mutual relations, analogous to that which I have in view for Emotions, may be suggested, it will perhaps be still more difficult to realise.

If it is true that the simpler emotions enter into the more complex, and are elements of them; if the activity of the more complex consists in the simultaneous activity of simpler ones; if (physiologically considered) it is probable that complex emotions do not depend on special cerebral tracts, but chiefly on centres of the co-ordination of those tracts that simpler feelings depend on,—it follows that complex emotions cannot be classed apart from the simpler. And if one simpler emotion enters into several complex ones, the complex cannot be classified apart from one another. As we cannot classify animals and the entrails of animals, so we cannot classify the feelings of Proprietary Justice and of Property, nor Love and Admiration; nor Awe and Fear. And if the feeling of Property enters into both Justice and personal Love, we cannot separate and classify Love and Justice: it is not as if Property were a generic attribute in which Love and Justice resembled each other; the common element is not a mere resemblance; it is a true identity—one root common to two trees that have other roots distinct. Yet all over Mr. Mercier's tables these feelings are widely distributed. And this is an inevitable result of the imperfect principle on which he proceeds, in regarding feelings as corresponding to single interactions of organism and environment, and overlooking the correspondence of the higher feelings with groups of interactions. If feelings have equal simplicity of excitation, why have they not equal simplicity of constitution? And surely that is not the case. If, on the other hand, some feelings correspond to groups of interactions between organism and environment, and therefore have a complex excitation, their constitution may be equally complex. And what more natural, what better economy, than that their constitution should be the union of simpler feelings severally corresponding to those interactions that together make up the groups of interactions to which they (the complex feelings) correspond? The having no regard to such considerations as these seems to me the fundamental weakness of Mr. Mercier's scheme, and one that must greatly lessen its value to Psychology; though it may have seemed a brilliant, I may say, dazzling performance to many readers—as to me certainly for a time it did, in spite of an indefinite suspicion that its acceptance implied the 'labefaction' of all the principles of the science. It would indeed be too much to declare such a classification useless: every catalogue made upon a principle not only aids the memory and facilitates a survey of the subject, but is pretty sure in some way to disclose important relationships, and so to be light-giving and suggestive. But to put it forward as carrying out the doctrine of Evolution was particularly unfortunate; for every such classification must follow the lines of origin, growth and pedigree, and precisely these the scheme before us tends to conceal and obliterate. It cannot therefore, I think, become incorporated with Psychology.

For the same reason such a system can give little assistance to Sociology as not readily lending itself to the explanation of different types of national, or of savage, barbarous and civilised character. Hence it can throw little light upon the practical sciences of human life that depend upon these more theoretic sciences of human nature : I mean, it cannot much help us in Politics, Ethics, Education, Æsthetic. Yet in these departments just views of the nature and relationships of our emotions are perhaps more important than of any other portions of our mental frame. Man, according to the paradox, is not a rational animal ; he is at least as much an emotional one. The arousing of emotion is to life at large what tact is to social intercourse, an instinctive guidance by clues too subtle and manifold for reason to follow or comprehend ; it is character, confidence, virtue, happiness, the support and the reward of exertion, the cement of families and states.

There is a well-known doctrine of Mr. Spencer's in relation to Ethics, that the gradual growth and organisation of the feelings, by coordinating the springs of our various activities, at last establishes the moral control of action. The power of an emotion over action is, he says, great in proportion (1) to the number of elementary experiences from which it is derived, or to its representativeness ; and (2) to the degree of its integration, or the ease and certainty with which the whole emotion, if at all excited, comes into operation. The most representative feelings are the higher moral feelings ; which, therefore, if sufficiently integrated, would overpower every other and guide the whole career of life. If it were possible then to classify feelings according to their closest resemblances and alliances, the moral feelings would be exhibited in their relations to all beside, and a great deal of light would be cast upon Ethics. The same classification might subserve the theory of Education by exhibiting the scope and organisation of our emotional nature at several stages of life. And if it were possible to indicate by it the political character, some light would be thrown upon Politics. At least, by help of a judicious commentary, it might illustrate the variations of political character among primitive tribes, among despotic or among free nations, and even among the several parties of the same nation. And we might learn perhaps that to understand the nature and growth of emotion is to have a well-grounded hope for the future of mankind. For the growth of civilised character is that kingdom whose coming is without observation, and by a stealthy prevalence transforms and ameliorates the world.

ON THE ANALYSIS OF COMPARISON.

By F. H. Bradley.

The interesting paper on "Comparison," which Mr. Sully has published in Mind XL., suggests some fruitful lines of inquiry. And there is one point, and that one of capital importance, on which I should be glad to add a few remarks, fragmentary and, no doubt, in other ways defective. This point is the *analysis* of the comparing function.

Mr. Sully has of course not omitted this question. He has pointed out certain features in the act of Comparison; but I do not find what can be called an attempt to resolve the product into its elements. I will, however, not criticise where it is probable that I do not understand, but will pass to Mr. Sully's description of the act.

"The term Comparison may be roughly defined as that act of the mind by which it concentrates attention on two mental contents in such a way as to ascertain their relation of similarity or dissimilarity" (p. 490). "Comparison is a mode of intellectual activity involving voluntary attention" (p. 498). "But it is an act of attention of a very special kind" (p. 492). In this description there are two points which call for remark. In the first place I should doubt if *voluntary* attention is essential to comparison. This is a matter of observation, or perhaps only of wording; but the second point is one connected with principle. Comparison is called "an act of attention of a very special kind," and this at once suggests a difficulty. If the special essences of the various intellectual functions are to be referred to differences in the kind of attention, then these kinds of attention should be described and enumerated, and, if possible, developed from the simple form. But if the differences in attention come rather from the different objects we attend to, then the speciality of the various intellectual functions must be looked for in themselves, and cannot come from varieties in attention. But I should confess that on the subject of voluntary attention, and of the position it holds in mental development, I am unable to understand Mr. Sully's teaching.

I will now offer the remarks which I have to make on the analysis of Comparison. We may say that the mind acts on two data in such a way as to ascertain their similarity or dissimilarity. Well now, what is this way? The mind passes of course from one object to the other, but then *how* does it pass and *what* crosses in the passage? If we use technical terms, we may answer as follows. Comparison is the (unreflective) subsumption of one datum under the other reciprocally, or the apperception of each by the other in turn. Having data A and B, we pass from A to B with A in our minds as our leading idea, and then return to A

with B in our minds as the idea which predominates. The result is that the diversities are brought into collision and so into notice, and that the identities are both reinforced by blending and also set free by the struggle of their competing differences. The process is either general or special. We may use, that is, the whole content of A or B, or but one special feature or aspect of each.

Now what operates in the above is the suggested idea of the identity in diversity, or diversity in identity, of A and B. This idea it is which (by redintegration) causes the process which brings about its own reality. If the comparison is intentional, the idea will have been there and have led from the first. But it may arise accidentally. Having A and B before me and casually passing from one to the other, I may perceive an identity or difference. This may interest and, becoming a dominant idea, may set up the process of alternate subsumption.

Thus in Comparison proper we have two data A and B, we have an idea of their identity and diversity which interests, and an ensuing process of alternate subsumption. We may have in addition an idea of this process. But before Comparison proper is developed the process cannot be set up by the idea of its result. We have then simply an identity felt in our data, which seeks in vain (by redintegration) to particularise itself in one as it does in the other, and so causes a collision.

It will, I hope, tend to clear up this rapid sketch if I try to show how Comparison is developed. Let us suppose that a child, or some other animal, has eaten a number of lumps of sugar. The result will be that, when a hard white lump is presented to its sense, that lump will be qualified by the idea of sweetness. But the lump now presented is a piece of salt, and what follows is a shock of discrepancy and pain. The question is whether this shock will subside and pass away, or be retained and lead to an advance. Let us suppose that it is retained. The suggested idea of sweetness is so strong that again and again the whiteness of the salt leads to attempt and disgust. But in this way a new connexion of whiteness and saltness will be formed in the mind.

Let the salt still remain, and let us offer beside it new pieces of sugar (while constantly changing the local positions), and let appetite be urgent. What will happen now may be a passage to the sugar with a certain idea of saltness, and to the salt with a certain idea of sweetness, and in each case a failure. The identical white leads to both, and the last presentation to sense in each case fills up the idea, and the result is perplexity. I think the issue may be as follows.

We are to suppose that in the sugar is a glittering appearance which is absent from the salt. These differences may not have been perceived, or at least noticed, and may have so far remained inoperative. But as attention grows through desire and pain, let this attribute become more prominent, and let it pass into the

idea with which the animal goes from the sugar to the salt. On this a fresh collision will take place. And another discrepancy will be felt when the idea of the dull salt collides with the sensation of glittering sweetness. The two pieces now, while held together by their identical attributes, are forced apart by their differences, and in this passage between them the diversities become explicit.

This I believe to be the way in which Comparison is developed. Its result, the perception of mixed identity and diversity, becomes, as an idea, the means for setting up the process which has yielded it. The chance result of groping is what gives the source of voluntary movement.

There are doubtless objections which will be taken to this fragmentary outline, but of these most will, I think, be founded on errors. I have dealt with some of them in my *Principles of Logic*, but there is one I may point out here. It will perhaps be said that my explanation is circular, since classification and comparison exist from the first and are implied in the earliest form of recognition. But the facts, as I find them both in general and in particular, are irreconcilable with this view—a view which, I believe, rests much less on observation than on preconceived ideas. And if an objector replies, But the comparison is yet 'latent,' it is 'virtual,' it is 'nascent,' it is only 'potential'—that moves me not at all. I must be allowed to say openly that such ambiguous phrases have, until they are explained, no right to exist in a scientific psychology, and that, if they were explained, their attraction would vanish. I have found that an assertion of 'potential' existence often stands for a 'nascent' perception of error; and in that sense it is welcome.

But I trust to meet with the general approval of psychologists when I say that in analysis there is still much to be done.

NOTES ON ARISTOTLE'S PSYCHOLOGY IN RELATION TO MODERN THOUGHT.[1]

By J. M. Rigg.

The common division of history into ancient and modern is for some purposes misleading. The Greeks in the fourth century B.C. were in many respects moderns. They had their mediæval period, their era of faith and chivalry in the so-called heroic age, of which the memory is preserved in the Homeric poems but which had passed away when in the seventh century B.C. these poems were reduced to writing, and already in the fifth century B.C. their modes of thinking were nearer to that which we call the modern spirit than those of any modern nation before the fifteenth century of the present era. Since that epoch indeed the modern peoples, profiting by the heritage which the Greeks left them, have made rapid and unprecedented progress especially in physical science; but even in physical science this progress would have been impossible but for the records of the speculations of the Greeks discovered during the Renaissance, speculations by which they laid the basis of every science, except chemistry and its dependents, which now occupies the attention of mankind.

I am not however one of those who wish to minimise the originality of the modern mind, and I fully admit that even in pure philosophy its originality has been conspicuously exhibited. Yet I cannot but consider that the systems most popular in this country at the present day would have been rightly regarded by Aristotle as anachronisms. The problem of pure psychology has indeed nothing in common with the problems of physical science, and the method which yields such magnificent results in the latter has no applicability to the former.

The problem of inductive science is, in Baconian phrase, to determine not only the form of a phenomenon but the latent process which results in the form (*latens processus ad formam*), in other words, to determine the law of the genesis of phenomena; and to that end it employs observation, experiment to guide and supplement observation, generalisation to universalise the results of observation, and experiment to test the validity of the conclusions reached by generalisation. Now, in order that the applicability of this method to the philosophy of consciousness should be made out, one or other of two points must be established: either (1) that consciousness had a genesis, or (2) that the assumption that it had one is a reasonable assumption. Inasmuch, however, as the genesis of consciousness can neither be

[1] The substance of this paper was read before the Philosophical Society on 23rd April, 1885.

observed nor remembered, it is clear that it can only be assumed. Is then the assumption warrantable? It will be found, I think, by any candid and competent thinker who seriously applies his mind to the question, that the hypothesis of a genesis of consciousness involves a contradiction, and that no proposition is more certainly true than that consciousness is eternal—eternal in the only possible sense of that much abused term as being unconditioned in time.

The method of dealing with time traditional with the English school consists in representing it as an abstraction from repeated experiences of succession. The truth, however, is that consciousness of succession presupposes consciousness of time. Thus, suppose that I am sensible of a given musical note, say the fifth, and after the last vibrations of that note have died away I hear the octave struck. What does such a consciousness involve? It is clear that, if I merely retained in memory an idea of the fifth, *i.e.*, the same sensation in faint form, the two sensations would merely be present to consciousness simultaneously, the one in a faint, the other in a lively form; the relation of former and latter would not subsist between them. In order that they should be thus related, in order that I should be conscious of the sequence of the octave upon the fifth, I must on hearing the octave struck be aware that I have already heard the fifth. Being, then, in the habit of characterising certain of our present experiences as signs of past experiences, we instinctively regard the relation of sequence which we thus constitute as somehow inherent in the experiences as things in themselves, *i.e.*, we forget that sequence and consciousness of sequence are identical. This is an illusion precisely similar to that whereby the untutored consciousness regards objects as existing in unperceived space; but, because the idea of time is the form of our inner no less than of our outer sense, a profounder reflection is necessary to dispel the illusion. Once, however, it has been clearly apprehended that sequence has no being except for an intelligence which has cognition of former and latter, and former and latter no existence but for consciousness, it becomes apparent that it is as absurd to ask whether that intelligence had a genesis as whether it is extended.

Further, the assumption that consciousness had a genesis involves the assumption that time is absolute, *i.e.*, that it is a reality in which the genesis of consciousness takes place but which is itself independent of consciousness. But this assumption is denied by empiricism almost as soon as made; since time, if it is an abstraction from experience, must be relative to consciousness; and that time should be at once a reality independent of consciousness and a result of the operation of consciousness is a proposition the terms of which are repugnant. If time, whether as an *a priori* form of experience or as an abstraction from experience, is relative to consciousness, then assuredly consciousness is

eternal, and the supposition that consciousness can be accounted for as a process in time absurd. Thus empiricism destroys itself by disproving its own postulate.

This fact of the eternity of consciousness is only now dawning as it were upon the English mind, but it was as clear as noonday to Aristotle. Thus, in a remarkable passage in the *Physica* after defining time as *ἀριθμὸς κινήσεως κατὰ τὸ πρότερον καὶ ὕστερον*, he observes that it follows that time has no existence apart from consciousness.[1]

In conformity with this doctrine we find Aristotle (*De An.*, iii. 5), speaking of reason as formative or constructive (*νοῦς ποιητικός*) inasmuch as it is only for it that any object exists, and as eternal (*καὶ τοῦτο μόνον ἀθάνατον καὶ ἀΐδιον*). It has been suggested that this passage[2] has undergone revision by an Alexandrian hand, but with little reason, since not only is it confirmed by many incidental expressions scattered throughout his system, of which that in the treatise, *De Generatione Animalium*, ii. 3 (*λείπεται τὸν νοῦν μόνον θύραθεν ἐπεισιέναι καὶ θεῖον εἶναι μόνον*) is perhaps the most remarkable, but it is complementary to the theory of nature expounded in the seventh and ninth chapters of the eleventh book of the *Metaphysica*, and though not explicitly enunciated till so late in the work really dominates the *De Anima* throughout. Thus in the first chapter he mentions as one among the many possible questions there briefly referred to—whether the soul has not some faculty which is pure in the sense of neither originating in sense nor being conditioned thereby; which if it exists would be the reason.[3] In this passage the words *λαβεῖν μὲν ἀναγκαῖον οὐ ῥᾴδιον δέ* are particularly noticeable as implying at once a preconceived theory and a sense of the special objection which has to be met—an objection to which he recurs in the seventh and eighth chapters of the third book but which he can hardly be said to remove.

So in his criticism of the physical theory by which Plato sought to explain the initiation of motion by consciousness, he points out that it assumes that the soul is extended, and this, he says, it clearly cannot be, since the universal soul must be such as that which is called *νοῦς*, and this, though it is continuous and one, is not a continuous quantity—is not extended.[4]

The same conception of reason as a formative or constitutive faculty appears in his criticism of the harmonic theory of the soul. Harmony is, he says, either a proportion or an adjustment, and the soul cannot be either the one or the other.[5] Why the

[1] *ἄξιον δ' . . . ἀριθμητά ἐστιν* (*Physica*, Δ 13).

[2] See Torstrik's edition.

[3] *ἀπορίαν δ' ἔχει . . . . ἄνευ σώματος εἶναι* (*De An.*, i. 1).

[4] *πρῶτον μὲν οὖν . . . . ἀλλ' οὐχ ὡς τὸ μέγεθος* (*De An.*, i. 3).

[5] *καίτοι γε ἡ μὲν ἁρμονία λόγος τίς ἐστι τῶν μιχθέντων ἢ σύνθεσις, τὴν δὲ ψυχὴν οὐδέτερον οἷον τ' εἶναι τούτων* (*De An.*, i. 4).

soul cannot be either a proportion or an adjustment he does not say, but unquestionably the enthymeme latent in the argument is that proportion and adjustment presuppose the existence of a rational and synthetic principle, presuppose the formative νοῦς.

The modern analogue of the harmonic theory is the attempt made by biologists to identify the soul with a special form of that correspondence between organism and environment in which life is held to consist. Life according to Mr. Spencer is "the continuous adjustment of internal relations to external relations," and intelligence he regards as the resultant of a higher degree of generality, speciality and complexity in the adjustment or correspondence.[1] It is obvious that the criticism to which Aristotle would have subjected this theory would have consisted in pointing out that adjustment or correspondence implies a synthetic principle, a formative reason (νοῦς).

From the harmonic theory, Aristotle passes by a natural transition to the consideration of that which he calls the absurdest theory of all,[2] to wit that the soul is a self-moving number, a theory attributed to Xenocrates, a pupil of Plato, but which like the harmonic theory is not without its analogue in modern thought, especially in Leibniz. The theory of Xenocrates appears to have been based upon atomism, to have been in fact atomism as interpreted by a Pythagoreanising Platonist. Thus he seems to have identified the Platonic ideas with numbers, and the Democritean atoms with the units of which the latter were composed, and to have regarded the soul as a certain εἶδος or number. The soul, however, being active must be defined not merely as a number but as a self-moving number. That this is a substantially accurate account of the genesis of the doctrine of Xenocrates, a study of the fragments and scholia collected by Mullach will, I think, make fairly clear. While however we may not unreasonably conjecture that it was the object of Xenocrates to harmonise that form of the Platonic idealism which had most affinity with Pythagoreanism with the atomic theory of Democritus,[3] we know by his own avowal that Leibniz aimed at reconciling Plato with Democritus, and both with Aristotle and the Schoolmen and Descartes.[4] To this end it was essential that the atoms should surrender their corporeal character, that they should become genuine indiscerptibles, or, as he calls them, real, *i.e.*, purely formal unities. Even the mathematical point was not sufficiently abstract for his purpose,

[1] *Principles of Psychology*, § 176.

[2] πολὺ δὲ τῶν εἰρημένων ἀλογώτατον τὸ λέγειν ἀριθμὸν εἶναι τὴν ψυχὴν κινοῦνθ' ἑαυτόν (*De An.*, i. 4).

[3] That this was Aristotle's view seems probable from his statement, δόξειε δ' ἂν οὐδὲν διαφέρειν μονάδας λέγειν ἢ σωμάτια μικρά κ. τ. λ. (*De An.*, i. 4).

[4] *Opera*, ed. Erdmann, pp. 205, 446.

since it can only be defined as the termination of a line. Hence by a somewhat unhappy metaphor the monads are designated metaphysical points, pure, *i.e.*, perfectly abstract units. The monad however is not merely one and indivisible ; it is also active and percipient. Of perception no distinct account is given. It is not a passive affection of the monad, for that is inaccessible to any influence except that of the uncreated monad, God : its nature is wholly active. Accordingly perception is vaguely described as "the transitory state in which a multitude is embraced and represented in unity or in the simple substance," as "a reflection of the universe" due solely to the spontaneous activity of the monad and varying in adequacy according to the degree of that activity. God is not invoked to explain the origin of perception, but He is represented as exalting and depressing the activity now of this now of the other monad, so as to give an appearance of action and reaction between them.[1] An attempt is made to explain the transition from one perception to another by a vague reference to an internal principle of "appetition," a kind of final causality. The net result is a jumble of incompatible ideas, a unit which is wholly secluded in its abstract unity yet reflects a manifold universe, and does so in virtue of its own activity, modified by the activity of the μονὰς μονάδων. Leibniz indeed evaded the absurdity (on which Aristotle insists as against Xenocrates) inherent in supposing a unit to move or be moved, by his hypothesis of a preestablished harmony between the "appetites" of the monad and the system of efficient causes, so that every perception of the monad has its correlative physical movement ;[2] but it is as absurd to predicate activity of a unit as to predicate motion of it, and just because the soul is active it cannot be a unit. Number, as Aristotle points out at a later stage, is one of the common perceptions, and therefore no idea derived from number, however subtly disguised its derivation may be, can do duty as a definition of the perceptive faculty.[3]

Another form of the arithmetical theory of the soul no less absurd than that of Leibniz is that which identifies it with the series of its states. A series of course is a number, and to define the soul as a series of feelings aware of itself as a series is in fact to define it as a self-conscious number. The number, the series of states, exists only for the soul in its reflection upon itself ; so that the definition is a ὕστερον πρότερον.

Aristotle concludes his review of his predecessors by examining the theory of perception advanced by Empedocles. This theory, based on the principle in itself true that like is only perceivable by like, is nevertheless so crude that it is chiefly interesting because of the light which Aristotle's method of refuting it sheds

[1] *Opera*, ed. Erdmann, pp. 705-6, 709, 745.

[2] *Ibid.*, p. 714.

[3] *De An.*, ii. 6.

upon his own theory. Empedocles held that perception is rendered possible by the presence in the soul of the same elements as are found in nature, to which Aristotle replies in effect that the mere presence of the elements in the soul would be useless in the absence of a synthetic principle, otherwise the elements might indeed be perceived in their severalty, but no concrete object could be perceived at all, and this synthetic principle can be no other than reason.[1]

Here it should be observed that, crude as was the theory of Empedocles, it at any rate evinced a juster appreciation of the nature of the problem to be solved than either that of Locke or that of Mr. Herbert Spencer. Locke reflecting on the mind in its supposed pristine state of vacuity inquires how came it by its manifold content, and answers "in one word from experience". "Our observation," he says, "employed either about external sensible objects or about the internal operations of our minds perceived and reflected on by ourselves is that which supplies our understandings with all the materials of thinking".[2] In other words, he assumes that the mind can and does bridge the gulf which separates it from "external objects"; he assumes that these objects are "sensible," that they somehow affect the mind. The assumption however conceals a very real difficulty and one which, though ignored by Locke, was present to the mind of Empedocles. That a material object being homogeneous with the physical organism may induce certain changes therein which ultimately issue in certain excitements of the sensorium is intelligible, but there the intelligibility stops. That the said nerve-changes should become sensations is in no way intelligible, since there is no community between a nerve-change and a sensation. The transmutation of a nerve-change into a sensation would be an uncaused event, and the assumption of an uncaused event might seem to be a bad beginning for philosophy. Yet this is just what Locke assumes.[3] Mr. Spencer attempts to evade the difficulty by describing feeling and nerve-change as two manifestations of the same reality, that reality being assumed to be totally *distinct* in nature from either of its manifestations. This theory will not bear the slightest inspection. In place of explaining the facts it formulates them in such a manner as to preclude explanation. That the "ultimate reality" manifests itself in two phenomena totally unlike itself is a contradiction in terms. To manifest is to make known: that the unknowable makes itself known is a contradiction in terms, but when it is added that its phenomena are totally unlike itself the original statement is

[1] ἐξ ὧν μὲν οὖν . . . . τῶν ὄντων εἶναι (*De An.*, i. 5).

[2] *Essay concerning Human Understanding*, ii. 1, § 2.

[3] It is but fair to Locke to observe that the difficulty becomes very real to him at a later stage (iv. 3, § 28).

retracted, and the unknowable restored to its full privilege of unknowability.

But to return to Aristotle: he resumes the criticism of Empedocles in the fifth chapter of the second book, contenting himself however with pointing out the essential distinction between the passive reception of an affection and the active response of a faculty to stimulus. In the brief chapter which follows, he anticipates Locke's distinction between the primary and secondary qualities of matter by his division of perceptions into particular and common; with this difference, however, that—unlike Locke with his primary qualities (solidity, extension, figure, motion or rest, and number)—he does not regard the common perceptions, motion, rest, number (in which, as we have seen, he includes time), figure and magnitude, as being any less relative to consciousness than the particular perceptions.

The seventh and following chapters including the eleventh are devoted to discussing the physical conditions of the special perceptions and, though ingenious and interesting in themselves, are of no importance for our present purpose. At the close, however, of the eleventh chapter, Aristotle is brought back to the psychological point of view by consideration of the fact that extreme intensity of sensation interferes with clearness of perception; showing, he says, that perception is a judgment, which implies the equal presence to several sensations of a μέσον, a principle at once unifying and distinguishing that judges between them. This idea is farther developed in the twelfth chapter.

In the second chapter of the third book he raises the question how it is that we are able to compare the special perceptions so as to recognise their unity as perceptions. In themselves, he seems to argue, colour and taste are neither similar nor different. How then are they comparable and distinguishable? The answer of course is that consciousness implies a principle of unity through the common relation of which to the special perceptions the latter are at once united and distinguished.[1] In the seventh chapter this unifying principle is explicitly identified with the νοῦς.

As I understand Aristotle, then, he conceived the reason to be operative in constituting the objects of perception as well as in theorising, to be eternal and homogeneous with the principle revealed to it in nature. On this latter point there is indeed no doubt. At the end of the third chapter of the first book of the *Metaphysica* he makes it perfectly clear that reason is with him the reality of nature, and the same doctrine is more formally and precisely stated in the seventh and ninth chapters of the eleventh book of that treatise. It follows that a definition of the soul *per genus et differentiam* is not to be looked for from him. As he says, "the soul is in a manner all things; for things are either perceivable or intelligible, and the intelligible world exists

[1] ἐπεὶ δὲ . . . . δῆλα εἶναι (*De An.*, iii. 2).

only in being understood and the perceived world in being perceived".[1] Soul in short is the infinite and eternal of which things in space and events in time are but so many modes, and nature as known by us is the point of contact (as it were) of the universal with the individual soul.

This point of view is to my thinking so far from being out of date that it is the only possible metaphysical basis of the Evolution-hypothesis. That hypothesis, postulating as it necessarily does an eternal universe, is incompatible with the doctrine of relativity as commonly understood by English thinkers, yet that doctrine if limited to the assertion that existence means nothing more nor less than cognition is irrefragable. When Mr. Spencer says, "Should the idealist be right the doctrine of Evolution is a dream," I agree with him, understanding him to mean by the idealist a person who maintains that nothing exists but the individual consciousness; but I rejoin, should Mr. Spencer be right the doctrine of Evolution is equally a dream. The plausibility of Mr. Spencer's theory is entirely due to the assumption of the objective existence of space and time and of organism and environment. In the *Psychology* however he is compelled to give some account of the evolution of space and time as forms of consciousness. For this purpose he retains the assumption of their objective existence, the gist of his theory being that they are forms of the *Non-ego*, by which he means the absolute reality, which by somehow operating continuously upon successive generations of conscious subjects have established congenital modifications of mental constitution corresponding to them. Eventually, however, he discovers that space and time as in themselves are not "in the least like" space and time as we know them, and that the whole form and content of consciousness including the very organism and environment, through the interaction of which according to the earlier version of the theory consciousness is supposed to evolve, are products—not indeed of Evolution, for that as an intelligible process and so relative to consciousness presupposes the existence of consciousness, but—of some mysterious operation of the Unknowable Power of which nothing can be said but that it has "no kinship of nature with evolution".[2]

The theory of Evolution in the final form which Mr. Spencer gives it is indeed a dream; it only becomes intelligible when with Aristotle and Hegel we regard the Power which it postulates as the immanent reason of the universe.

[1] Νῦν δὲ περὶ ψυχῆς . . . . ἡ δ' αἴσθησις τὰ αἰσθητά (*De An.*, iii. 8). The qualifying πως indicates no uncertainty in Aristotle's thought, but is intended to negative the doctrine of pure relativity held by Empedocles and others. See iii. 2: ἀλλ' οἱ πρότεροι φυσιολόγοι κ. τ. λ.

[2] *Principles of Psychology*, §§ 473-4.

VII.—CRITICAL NOTICES.

Knowledge and Reality: A Criticism of Mr. F. H. Bradley's *Principles of Logic.* By Bernard Bosanquet, M.A., late Fellow and Tutor of University College, Oxford. London: Kegan Paul, Trench & Co. Pp. xi. 333.

In the Preface to this book, Mr. Bosanquet speaks of the *Principles of Logic* as "a work which deserves to be epoch-making in English philosophy". Nor can this high claim be well denied, if the attempt to bring to bear upon a science a radically new conception of its nature, and to re-adjust its content in the light of this, is entitled to the name of "epoch-making". For Mr. Bradley's treatment of Logic amounts to no less than this. His work may fairly be described as an attempted reconstruction of logical doctrine in view of the achievements of Idealism. Very little of the old traditional Logic can stand the searching blaze of that fierce light; but, according to Mr. Bosanquet, the work of reconstruction is not radical enough. There are still parts of the old fabric left standing, though their foundation is undermined; and the object of this "Criticism" is to complete Mr. Bradley's work both in its negative and in its positive aspects, in the destruction of the old and in the substitution of a more adequate view. It is a certain "deficiency in philosophical thoroughness" which, according to Mr. Bosanquet, Mr. Bradley shares with "the writers of the German reaction," and which he would remedy by exhibiting the necessary consequences of Mr. Bradley's principles. "It is my object," he says, "in the following pages to show how Mr. Bradley's essential and original conceptions might be disengaged from some peculiarities which he apparently shares with reactionary Logic." In the main, then, the critic agrees with his author; and his object throughout is evidently not only to point out defects in the *Principles of Logic*, but quite as much to emphasise and carry home the greatness of the advance made in that work upon the standpoint of traditional logic. At times, indeed, Mr. Bosanquet's criticism may seem a little fine, especially in the discussion of details whose essential connexion with the main standpoint of his book it is occasionally difficult to see. Perhaps, however, this is a hardly avoidable accompaniment of that "thoroughness" in following out the consequences of a point of view which he desiderates as the one thing wanting in Mr. Bradley's work, and which is certainly the characteristic of his own. It must be added that the difficulty of the *Principles of Logic* is rather increased than otherwise in this exposition and criticism; and one feels occasionally that the difficulty is not altogether inherent in the subject, but is the result of a certain want of perspective in the treatment, which

makes it not always easy to lay hold at once on the essential and subordinate to it what is really matter of detail. This initial difficulty once surmounted, however, and the meaning and connexion of the various parts once apprehended, the discussion is invariably found to be original, careful and coherent.

The chief part of Mr. Bradley's work and of Mr. Bosanquet's criticism is the doctrine of Judgment. The traditional view itself recognises this as the citadel of the situation; if reconstruction is necessary here, it is necessary throughout. Now Judgment, according to Mr. Bradley, is not—as traditionally conceived—the connexion of two ideas, whether in extensive or intensive quantity; but the reference of an idea (predicate) to Reality (the constant subject). This reference to Reality is of the utmost importance in Mr. Bradley's work, and it is the feature in it against which Mr. Bosanquet's criticism is chiefly directed. 'The *ultimate* subject in judgment' is always the Real, which is found in perception, while it is 'for us an ideal construction'. It is in this view of Reality that Mr. Bosanquet detects the saddest want of "thoroughness". "You cannot at once treat reality as ideal construction, and demand from it characteristics approaching to those of presence in the sensible series." Such an "anti-monistic *attitude*" or "*bias*," he maintains, is unworthy of Mr. Bradley. "Only a rich man may wear a bad coat, and only a philosopher of Mr. Bradley's force could escape suspicions of a crude dualistic realism when he writes as follows:—'It may come from a failure in my metaphysics, or from a weakness of the flesh that continues to blind me; but the notion that existence could be the same as understanding strikes as cold and ghost-like as the dreariest materialism. That the glory of the world in the end is appearance, leaves the world more glorious, if we feel it is a show of some fuller splendour; but the sensuous curtain is a deception and a cheat if it hides some colourless movement of atoms, some spectral woof of impalpable abstractions, or unearthly ballet of bloodless categories. Though dragged to such conclusions, we cannot embrace them. Our principles may be true, but they are not reality'" (p. 18). Mr. Bosanquet protests against this "baleful enchantment," this "dream which . . . seems never to lose its maleficent spell". "Surely the more glorious reality," he says, "is that which our vision and our will can make of the world in which we are; and the certain frustration of all such achievement is to relax the toilsome grasp which holds real and ideal in one" (p. 20). Again: "I may observe in reference to his entire position that the distinction between reality and the discursive movement of the intellect appears to me to be for us a distinction *within the intellectual world*" (note, p. 19). Mr. Bosanquet explains that he suspects he must have misunderstood Mr. Bradley here, as he cannot suppose him actually to hold any such view as that described above. But probably this line of thought is more conscious and fundamental in Mr. Bradley than his critic supposes. Nor is

he singular in his indulgence of such an "attitude" or "bias". One may point to the words of a philosopher no less profoundly influenced by the conception of Reality as "ideal construction"—Dr. Hutchison Stirling—who, in his Annotations to Schwegler's *History of Philosophy*, says: 'Neither gods nor men are in very truth logical categories'. Such a deliberate conviction about the nature of Reality, though it may interfere with the triumphant march of an idealistic logic, is not to be simply set aside as "capricious" and deficient in "thoroughness". It is enunciated precisely on the ground that the thorough following out of the standpoint of Idealism does not yield Reality, but only its semblance, as result; and in order to its refutation, this criticism of Idealism must be refuted. This is a task which Mr. Bosanquet does not contemplate. He contents himself with proclaiming that the Real is simply the system of relations, the ideal completion of that process of Judgment which is its progressive definition. "The ideal assertion, which alone could have absolute strength, would be the predication of the whole content of the Real about itself as subject" (p. 138).

There is no difficulty, on this view of Reality, in giving a coherent account of Judgment. The subject does not now fall outside the judgment, "*except in the sense of the one ultimate subject, reality or the non-phenomenal fact*, which all judgment is an attempt to define, and this falls within the judgment, in as far as the latter is true" (p. 187). The Judgment thus becomes a self-contained unity: "each part, though distinguished, is in the other". Nor can Mr. Bosanquet yield to Mr. Bradley that the old logical subject, predicate and copula are mere "superstitions". He is particularly earnest and successful in his vindication of the copula. Even in such abbreviated judgments as 'Wolf!' or 'Fire!' which Mr. Bradley cites as irresistible evidence in favour of his view, Mr. Bosanquet finds something of the nature of a copula. It is indeed implied in every judgment as such; it is "nothing but the indication that the act of judgment is performed". "When we regard the logical copula as the common or formal element of the act which is a judgment . . . and the grammatical or linguistic copula as the expression or communication of this act, . . . then it becomes a contradiction to say with Mr. Bradley that judgment can exist without a copula" (p. 168). For the essence of Judgment is still seen to be *connexion*—though connexion of a different kind from that of the old Logic; and the copula is simply the explicit exhibition of that "systematic" character which constitutes Reality, and which the Judgment claims "to exhibit, that is, to construct or reconstruct".

It is only possible to refer in a word to Mr. Bosanquet's view of Inference. Here he is essentially at one with Mr. Bradley in his condemnation of Subsumption as an inadequate account of the actual operation. He adds, however, that "subsumption still haunts us" in two forms—(1) in "the process of interpreta-

tion," and (2) in what he calls "second-class inferences," *i.e.*, inferences which, originally made by experiment, are repeated by subsumption. He is also at pains, as in his account of Judgment, to do justice to the traditional view, and to preserve what in it was true, though in a new form. "If we are to be deprived of subsumption, as I am convinced that we must be, we should be doubly careful with our new account of Inference." In Mr. Bradley's work he does not find the same analysis of Inference as that given in the Syllogism, "or any substitute for it". This defect he seeks to remedy. The 'major premiss' must indeed be given up; but the task which it was meant to fulfil still remains. "An explicit exhibition of ground and principle is indispensable to every inference which claims to be called rational," even although "such an analysis does not change the intellectual function, but only gives it self-consciousness". For this "nexus" or "ground" is "the element which constitutes its essence as inference". "Only in as far as there is an apprehended source of necessity is there, to my mind, an inference at all; and in as far as we fail to represent this in black and white when we state our premisses, so far does the inferential character of the inference escape our analysis" (p. 322).

Had space permitted, attention might have been directed to many particular discussions of unusual excellence in this book. Such, for example, is the treatment of Immediate Inference, all supposed examples of which Mr. Bosanquet reduces to "efforts of inference," "formal or interpretative inference," which may not be "psychologically impossible," but are really "present in the definite structure" of the original judgment. Of great value also is the account of the distinction between Categorical and Hypothetical Judgments (c. i.), of "Proper Names" (cp. especially pp. 73-75), and of "Induction by simple Enumeration" (pp. 84, 85).

JAMES SETH.

The Guide of the Perplexed of Maimonides. Translated from the Original and Annotated by M. FRIEDLÆNDER, Ph.D. 3 vols. London: Trübner, 1885. Pp. lxxx. 368; ix. 225; xxvii. 327.

As the story goes, Maimonides was at first anxious to prevent the study of his work by any but members of his own faith, and accordingly he had only one other copy made besides that which he sent to Ibn Aknim, for whose benefit the *Guide* was composed. Though Arabic was the original language of the work, Hebrew characters were used to contribute towards this restricted circulation. Be that as it may, the author was not very much concerned to place his views before even his own brethren, and in one of his letters to Aknim he declared himself well content with his fate if he were understood by but one sympathetic mind. But his longing for obscurity was not to be satisfied. Soon, copies of his work

were made in Arabic characters, and later on an Arabian author wrote a commentary on the 26 Propositions with which Part ii. of the *Guide* opens. Maimonides communicated the instalments of his work to Aknim as they were composed in detail, and on one occasion does not quite know whether he had despatched the concluding sections of Part i. or not.

The importance of Maimonides may be gauged from the extensive mythology that has grown up round his name. There is a legend which tells how the boy Moses was a dull and idle child, so slow in learning that Maimon, his father, in despair drove him from his home. Moses took refuge overnight in the Cordova Synagogue, and lo! when he awoke in the morning he was another being—from the dullest he became the cleverest boy in the town. There is no foundation for this story, but it well typifies the estimates that have been formed of him both by his own and later generations. There is no medium—no moderation; *aut Cæsar aut nihil*, either greatest or least. His immediate successors were divided by the question of his merits into violently opposed factions—excommunications being freely indulged in by Maimonists and anti-Maimonists alike. The history of Judaism for a considerable period is the history of the Maimonist controversy. Hence, quite apart from its philosophical merits, the importance of the *Guide* more than justifies the issue of the present translation.

This is not the place to enter into a full account of the author's life. Dr. Friedlænder has collected in his useful Introduction all that is known of the author, and has adduced some new facts and arguments and many fresh interpretations of old materials. On one point I am not quite convinced despite Dr. Friedlænder's powerful advocacy, and that is the alleged apostasy of Maimonides, who in common with several of his brethren is asserted by Arabian writers to have been forced to outwardly conform to the Mohammedan religion. This imputation—which is not at all a dishonourable one—appears well founded. Aknim, Maimonides's most intimate pupil, is declared to have taken this step by Alkifti, who could have had no object in falsely charging his friend with it. Dr. Friedlænder thinks his view supported by the absence of reference to the supposed lapse of Maimonides during the controversy that ensued. But were not many of Maimonides's opponents in the same case as himself? They could not decently blame him for so venial a fault if they had committed it themselves. But the whole of Dr. Friedlænder's discussion of this subject (Introd. xxxiii.-xl.) is both able and original. On only one other point of Maimonides's life will I offer a remark. Prof. Pearson, in MIND, Vol. viii. 340, explained Spinoza's refusal of a University professorship as due to his sympathy with the Jewish views of life expressed by Maimonides. I have found an even clearer indication of the strength of Maimonides's feeling in this direction in a letter dissuading Aknim from abandoning his trade to devote

himself entirely to teaching. He advises his friend to retain his business, while at the same time employing his leisure in the study of medicine and of the law. "One drachm," writes Maimonides, "gained by weaving, tailoring, or carpentry is to my mind more agreeable than the whole revenue of the Prince of the Captivity."

Dr. Friedlænder's is not the first attempt to translate Maimonides into English. Parts of the *Strong Hand*, the *Book of Precepts*, the *Eight Chapters on Ethics*, and of the *Guide* itself have been so rendered; but these are mostly the non-philosophical portions of his extensive works. The first translations of the *Guide* were the Hebrew versions of Charizi and Ibn Tibbon, the latter of which was executed to a certain extent under the author's supervision, while the former is free and (according to the author's son) inaccurate. Later translations were Buxtorf's in Latin, and the German version of Fürstenthal and Scheyer. Both of these suffer in intelligibility, inasmuch as they are based upon Ibn Tibbon's version, which, while excessively literal, is written in a difficult and crabbed style. The cause of this may be found in the want of a true Hebrew philosophical nomenclature. The cumbrous phraseology of Hebrew philosophers is a hybrid Greek and neo-Hebrew, the interpretation of which presents difficulties even to professed students of Hebrew. Munk's French translation was the first, in any living language, which deserves the name. His superiority is due chiefly to his employment of the original Arabic text, which in fact he reconstructed and published for the first time. In his zeal, however, he went to the other extreme, and erred in frequently neglecting the guidance of the Hebrew versions where the Arabic was defective or ambiguous. Dr. Friedlænder, on the other hand, systematically compares his version with both Ibn Tibbon's and Charizi's, and thus has the advantage of translating from three independent texts. Occasionally Dr. Friedlænder's amendments of Munk are doubtful improvements,[1] but, speaking generally, the English version is an immense advance upon Munk's. It is clear, intelligible, and fluent, and at the same time a very faithful reproduction of the abstruse original. It is chiefly in the very difficult Part ii., especially in the Introduction, that Dr. Friedlænder's superiority manifests itself; but Part iii. is marvellously well done, the English being flowing and elegant. With the aid of the notes, which enable him to contrast the rendering of Munk in most disputed passages, the reader may be quite confident that in the present edition he has before him as accurate an exposition of Maimonides as a translation can hope to afford. The introductions and notes contain a valuable mass of information which, it is to be hoped, Dr. Friedlænder will soon supplement by an essay on the exact relations between Maimonides and European Philosophy.

[1] *E.g.*, i., 189, 341, though these points are very unimportant.

The unique position occupied by Maimonides is not entirely due to his philosophical superiority over other Jewish thinkers. Saadia, Ibn Gebirol, Behai, Jehudah Halevi, Ibn Ezra and Gersonides, are philosophers who at times excel Maimonides in breadth and even more frequently in subtlety. Yet only one of these is known to any but Jewish scholars, while the bulk of his own brethren as well as of cultured Europe have heard at least Maimonides's name. Maimonides would, in the first place, have been famous without writing the *Guide*. For in his great work, the *Strong Hand*, he had systematised the literature of Judaism —he had reduced to order the mass of Rabbinical history, ethics and law known as the Talmud. Maimonides was thus a Rabbi of the Rabbis, and had attained highest rank in Rabbinical composition. When, therefore, he compiled a systematic exposition of his philosophy, he spoke not so much from an individual standpoint as from the standpoint of Judaism; it was not Maimonides who discoursed, but the author of the *Strong Hand*. Hence the violence, too, of the opposition which the *Guide* aroused. Ibn Ezra, like most eminent Jewish authors, dabbled in philosophy, but did not reduce his views to system; Jehudah Halevi has the semblance of system without the reality; Saadia is systematic but within limits too narrow to truly deserve the epithet. Maimonides was much exercised by this fault which, especially as regards the legal literature of his brethren, he strongly condemned. If space permitted, I think it would be easy to account for this deficiency, if such it be. The absence of a permanent home, and acceptance of the Bible as the whole philosophy of life, may be mentioned as contributory causes. It must not, however, be thought that the *Guide* can be unreservedly described as systematic: it is *that*, but only relatively to the author's objects. He clearly states his aims—to examine into the metaphysical meaning of Scripture, to criticise the *Kalam*, to prove the doctrine of Creation, and to investigate the relations between God and the Universe; and he fairly succeeds in carrying them out. "In this work," he says, when half way through his task, "it is not my intention to copy the books of the philosophers, or to explain difficult problems, but only to mention those propositions which are closely connected with our subject."[1] Throughout, he adheres to his expressed intention[2] of addressing himself only to readers in whom might be presupposed a certain acquaintance with theology and philosophy, but who might find themselves unable to reconcile their conflicting doctrines. A strange though not altogether unparalleled fact may be here noted, *viz.*, that from the very part of the *Guide* which goes beyond the original design—the "Appendix," as Dr. Friedlænder aptlterms y it—the author's work is best known.

Joseph Ibn Aknim had been at one time a personal pupil of the

[1] ii. 9. [2] Cp. i. 6, 117 ff.

author, who formed a high opinion of the character and talents of his disciple. After a course of astronomy, mathematics and logic, he taught Joseph the elements of metaphysics, but found that his pupil was not to be put off with vague hints in reference to the esoteric doctrines of philosophy. Maimonides was opposed to teaching philosophy indiscriminately, but he deprecated the study of metaphysics not so much because he considered the objects of philosophy impious or unattainable, as that (to use his own simile) he believed transcendental food too heavy for the digestion of an uncultured intellect. With Aknim he could not plead this excuse, even had he been so inclined. Aknim, Maimonides thought, had undergone a systematic training which would justify the author in presenting him with a full statement of his views. For him, and others like him, Maimonides accordingly composed his treatise—the *Guide of the Perplexed*.

First, he would explain certain terms occurring in the Prophetical writings. It will be readily seen that some knowledge of Hebrew is necessary for a full appreciation of this portion of the work, but the reader must not be dissuaded from its perusal by the large quantity of Hebrew type which distinguishes the first volume of Dr. Friedlænder's translation. It should be mentioned that this instalment of the translation was issued as far back as 1881 under the auspices of the Hebrew Literature Society (now defunct), and was therefore intended mainly for readers to some extent acquainted with Hebrew. But not only will this difficulty be found altogether absent from the latter chapters of Part i. and from almost the whole of Parts ii. and iii.,[1] but it is more apparent than real even in the earlier sections. In these, Maimonides is chiefly occupied with the Biblical anthropomorphisms, and their relation to the true theory of God. Earlier Jewish philosophers and theologians had explained these expressions as figurative, but Maimonides is not satisfied with this: he attempts to assign to each of them some definite metaphysical meaning. Besides figurative terms, he distinguishes between terms homonymous, which denote things totally distinct, and terms hybrid (which denote things which may variously be taken as belonging to the same or to different classes). Thus the narrative of Adam's sin is interpreted as an allegorical exposition of the relations between Sensation, Intellect and the Moral Faculty (i. c. 2). The Hebrew term for *form* he explains (i. c. 3) as *(a)* bodily form—shape, as perceived by the senses; *(b)* mental form—the image which remains when the objects have ceased to affect the senses; and *(c)* the intellectual form—the true *idea*, in which sense alone it can be applied to God. Prof. Pearson thought it necessary to seek outside the *Guide* for Maimonides's views on the close connexion between truth and virtue. But Maimonides affirms the same doctrine here, declaring, for instance, that "only the man

[1] No Hebrew type is used in Vols. ii. and iii.

whose character is pure, calm and steadfast can attain to intellectual perfection".[1] Leaving the examination of specific Biblical terms, Maimonides proceeds to show that ordinary men consider matter or body the only true and full existence ; that which is neither itself a body nor a force resident in a body is to such men non-existent and inconceivable. Again, life is commonly identified with motion, although motion is not a part of the essence but a mere accident of life. Perception, again, is the most conspicuous means of acquiring knowledge. Especially is this true of sight and hearing ; and speech is the only mode of communication between one mind and another. Hence God is figuratively described as active, seeing, hearing and speaking, and even the organs by which those functions are performed by man are ascribed to Him ; for in man these functions are perfections, and they are predicated of God because we wish to assert His perfection. Action and speech are also applied to God to symbolise that a certain influence has emanated from Him.

This leads us to consider an important part of Maimonides's philosophy, *viz.*, the meaning of communication between God and men. Maimonides[2] agrees with the Platonic or general Greek view that prophecy or attainment of direct knowledge of the truth is a *natural* faculty of men which may be reached by all who submit to the necessary preparation, and who can raise themselves to the requisite intellectual and moral perfection. Maimonides endeavours to show that this is the view of the Bible, but he is not successful in this attempt, and most of his Jewish successors have severely attacked him on this point. He seeks to anticipate obvious objections by declaring that men duly qualified may be miraculously withheld from prophecy by the will of God ; but this is merely a subterfuge to hide the fact that, according to Scripture, the will of God is the regular and normal condition for acquiring the prophetic spirit. Prophecy, according to Maimonides, is an emanation through the Active Intellect to man's rational and imaginative faculty, *i.e.*, the faculty of receiving sense-impressions, and retaining and combining images of them. The latter part of the faculty is most active in dreams, which differ from prophetic vision in degree and not in kind. The imagination acquires such an efficiency in its action that it regards the image as if it came from without, and as if it were perceived through the bodily senses. Granted that a man possess a brain and body in perfect health, that his passions are pure and well balanced, that his thoughts are engaged in lofty matters, that his attention is directed to the knowledge of God,—such a man must be a prophet. If he be of the highest order, his imagination will repre-

[1] For some very acute psychological discussions, which space will only permit me to allude to, I may refer the reader among other passages to i. c. 47, c. 72, c. 73 ; ii. c. 37, c. 40 (opening) ; iii. 41-4.

[2] ii. 160 till end of volume.

sent things not previously perceived by the senses, which his intellect will have been perfect enough to comprehend. Maimonides's view seems to come to this, that prophecy does not differ essentially from ordinary intellection: perception is the result of a divine influence, and prophecy is that state of intellection in which the preliminary *sense*-perception is more or less dispensed with; in a word, when the divine influence, by acting immediately on the perfect intellect, is represented by the perfect imagination, without the intermediary of the faulty and defective senses.

Attributes are, according to Maimonides, utterly inapplicable to God. This assertion he proves by classifying attributes generally, and by showing that each and every class is irrelevant when applied to God. His classification is based on the lines of Aristotle's ten Categories, but Maimonides does not slavishly follow his philosophical master.[1]

- *Essential* Attributes.
  - (1) Including *all* the essence, genus and differentia, Man is a rational animal. (Substance.)
  - (2) Including only *part* of essence, Man is rational, or Man is an animal.
- *Non-Essential* „
  - Quality.
    - Quality.
    - Quantity.
    - Passiveness.
  - Relation.
    - Relation.
    - Place.
    - Time.
    - Property.
  - Action.
    - Position.
    - Action.

In this scheme I have followed Dr. Friedlænder's identification of Aristotle's categories, and, though this classification of Maimonides's is not altogether satisfactory, it appears to meet some of the modern objections to Aristotle's arrangement by distinctly combining the last nine categories as non-essential. These attributes are all inapplicable to God; we cannot even predicate His essence, we can only assert *that* He exists. No definition of God is possible *per genus et differentiam*, since these are the causes of the existence of anything so defined, and God is the final cause. Even Unity is inadmissible as an accident to God; God is One, but does not possess the attribute of Unity. To say in the usual meaning of the term that God is One, is to imply that His essence is susceptible of quantity; but, as metaphysics is forced to employ inadequate language, in order to assert that God *does not include a plurality*, we declare that He is One. Hence, since only *negative* attributes are admissible, and since these are infinite in number, there is no possibility of obtaining a knowledge of the true essence of God. Yet, paradoxically enough, Maimonides

[1] i. c. 52.

holds that the greater the number of the negative attributes one can rationally assign, the nearer one has reached to a knowledge of God.

Spinoza's doctrine, "Dei potentiam nihil esse praeterquam Dei actuosam essentiam," and similar statements bear a very close resemblance to an opinion of Maimonides, which Prof. Pearson apparently thinks must be sought for in that author's *Yad*. But in the *Guide* we find the very same principle. "The essence of God is identical with his attributes" (i. 204-7). "God includes in his Unity, the *intellectus*, the *intelligens* and the *intelligible*" (i. 252-9). This opinion is far from original. It is the common property of several Jewish philosophers, and the idea is probably as old at least as the *Sepher Yetsira*, and is to be found in the *Cusari* of Jehudah Halevi. In human perception, Maimonides distinguishes the thinker, the hylic intellect and the abstract form of the object perceived. When the intellect is active, these three coalesce;—the intellect *is* the comprehension. God being an active intellect —always actual and never potential—the principle which applies to the human intellect only at intervals, applies *always* to God.[1]

Maimonides must not be judged merely from the positive results of his philosophy. There are certain tendencies to be noted in him which are perhaps the more deserving of praise from the very fact that he did not unreservedly abandon himself to them. This is at once the strength and the weakness of Maimonides. Spinoza[2] accuses him of disingenuousness in asserting that he could always find in Scripture the truths that reason revealed: that, when his philosophy contradicted the plain utterance of the Bible, he would not therefore suspect the former, but would seek for a new interpretation of the latter. No doubt, Maimonides does confess that he was guided by this principle in his reconciliation of theology with metaphysics. "I do not reject the Eternity of the Universe," says Maimonides,[3] "*because* certain passages in Scripture confirm the Creation; for such passages are not more numerous than those in which God is represented as a corporeal being; nor is it impossible or difficult to find for them a suitable interpretation." "Those passages in the Bible, which, in their literal sense, contain statements that can be refuted by proof, must and can be interpreted otherwise."

But this criticism, just as it is, does not allow sufficient weight to a very different aspect of the case. Strange as the statement may appear with reference to a theologian and Aristotelian like Maimonides, no man was ever less a slave to prejudice and authority than he essentially (though not consistently) was. In several passages his indignation breaks out against the men who dare to

[1] Another idea of Spinoza's, quoted in MIND, Vol. viii. 349, may be compared with the *Guide*, iii. 283-284.

[2] *Theol.-Polit. Treatise*, vii.

[3] ii. 118.

assert nothing for which they cannot quote chapter and verse. Maimonides held some important points in common with the Arabian Mutakallemim, though he differs from them both in method and in numerous details.[1] The atomic theory, the impossibility of the existence of a substance without accidents, the denial of the infinite, the unreliable character of the senses, are all doctrines against which Maimonides vigorously, and in some cases successfully, protests. But his agreement with the exponents of the *Kalam* on the question of Creation does not moderate his onslaught against their method, for it is their *method* rather than their *results* which he is determined to demolish. And why does he show such hostility to them? Because "first of all they considered what must be the properties of the things which should yield proof for or against a certain creed; and when this was found they asserted that the thing must be endowed with these properties. . . . . They found in ancient books strong proofs and valuable support for the acceptance or the rejection of certain opinions, and thought there was no further need to discuss them" (i. 280; cf. 311). With regard to Aristotle the revolt of Maimonides is even more remarkable. Maimonides is a thoroughgoing Aristotelian, and the student of the great Stagirite might turn with advantage to the opening chapters of Part ii. of the *Guide* for a clear exposition of some of the most important of Aristotle's doctrines. Yet Maimonides differs from Aristotle on the Creation controversy, and ridicules those "who blindly follow" the Greek philosopher—who "consider it wrong to differ from Aristotle, or to think that he was ignorant or mistaken in anything".[2]

Spinoza does not appear to have fairly taken these suggestive facts into consideration. Maimonides's radical defect he certainly detected; but he failed to perceive that Maimonides was really paving the way for the very independence of the individual mind for which he himself so strongly contended. True, Maimonides

[1] The philosophers of the "Word"—the Arabian Mutakallemim—declared that the existing order of things proves nothing, since conceivably the opposite order is equally admissible. They established in accordance with this view the *Creatio ex nihilo* and the Unity and Incorporeality of God. Maimonides objects to this method on the ground that the Mutakallemim make the existence of God dependent on Creation; and thus philosophers (of the Aristotelian school) denying Creation would thereby overthrow the doctrine of the existence of God. Maimonides accordingly prefers to adopt for argument's sake the belief in the eternity of the universe, and to prove on that basis the existence and unity of God; he then returns on his premiss, and proves Creation. If the latter is admitted, the existence of God follows, for a Creation presupposes a Creator. It may be questioned whether Maimonides was not partly led to follow this course by a latent feeling that his proofs of Creation were but imperfectly conclusive.

[2] ii. c. 15, which is a most important chapter.

always sought to interpret Scripture in accordance with his views; but he did not hesitate to arrive at his views independently of Scripture. "Consider," he remarks in one place, "how these excellent and true ideas, comprehended only by the greatest philosophers, are found scattered in the Midrashim" (i. 270). He could not altogether resist the temptation to show that authority was on his side; but it was impossible for a man to go further in defiance of authority than he did, unless he was prepared like Spinoza to discard authority altogether.

Maimonides may be said to have moulded modern Judaism, and to have proved its ability to satisfy the intellectual and moral necessities of different ages by its adaptability to all. He gave the death-blow to the letter-worship of Scripture against which Judaism was always, when rightly understood, a standing protest; and he rendered Judaism as free from servility as a dogmatic system well could be. There was naturally a reaction against Maimonides, and neither the ultra-radical nor the ultra-conservative is altogether satisfied with him. But no one can think of understanding the course of Jewish thought, and of the general tendencies of the civilised world as influenced by it, without seriously setting himself to the perusal of the philosopher whose greatest work Dr. Friedlænder has so well and ably edited; and it would, therefore, be hard to exaggerate our obligation to the latest and best expositor of Maimonides.

I. Abrahams.

Les Maladies de la Personnalité. Par Th. Ribot. Paris: F. Alcan, 1885. Pp. 174.

This new study of M. Ribot's in the domain of pathological psychology is worthy of its predecessors. The author shows here as elsewhere industry and skill in collecting and utilising curious out-of-the-way facts, and a happy facility in setting forth his conclusions.

The subject which M. Ribot has here selected is one peculiarly well fitted to bring out the characteristic excellences of his psychological method. Personality is an idea which in its nature is sufficiently obscure, and which has, no doubt, as the author impresses on our minds, been rendered still more obscure by the disputes of metaphysicians. To dispel this obscurity, and to do this by help of those very physiological considerations which these metaphysicians regard as trivial and irrelevant was just the kind of problem to attract an advanced student of the newer psychology like M. Ribot. He has manifestly thrown himself into the task with ardour. Works on mental disease, descriptions of the curious psychological phenomena which present themselves in the case of the eunuch, the hermaphrodite, the double monster and so forth,—these and a great deal besides are

laid under contribution. The result is a very ingenious essay which goes some way towards solving one of the most difficult problems in psychology.

M. Ribot sets out with a brief statement of his psychological standpoint. This is emphatically the standpoint of the biologist. To our author conscious mental activity is an incidental appendage to a sum of nervous processes, which constitute the real basis of mind and personality. The deepest ground of self-consciousness is thus a physiological fact, namely, the unity of the bodily organism and the representation of the several functions of the organism by the nerve-centres.

Agreeably to this general conception, M. Ribot begins his review of the different disturbances of the feeling of personality with those that he calls "organic". Here there are physical changes to which the perversion of the feeling can be directly referred. The consideration of slight disturbances in normal life, due to depressions, &c., of the vital functions, leads on naturally to the discussion of the graver perturbations which occur in mental disease. In dealing with these, the author refers to the well-known facts of double personality. In this connexion, too, he describes the modifications of the feeling in the case of double monsters and ordinary twins; though he might, I imagine, have made the bearing of the facts on his theory clearer than he has done.

We next come to "emotional disturbances" *(les troubles affectifs)*. Here the immediate cause of the perversion of self-consciousness is an alteration in the feelings; but since these, in many cases at least, have definite physical conditions (*e.g.*, that of the subject of castration), it is not easy to distinguish this group of disturbances from the first. The outcome of this section is that "we always come back fatally to the organism". It is true that the author tells us that the personality results from two factors—(*a*) the constitution of the body with the tendencies and feelings which translate it, and (*b*) memory. But it is evident that by "memory" is meant here simply the organised memory of the bodily feelings themselves. Indeed M. Ribot, in another passage, takes pains to oppose the contention of metaphysicians that the consciousness of personality is based on memory in the ordinary sense of that term.

After the emotional come the "intellectual" disturbances. The account of these strikes me as less complete than the other chapters. The author in magnifying the *rôle* of the bodily feelings, seems to underestimate the influence of the intellectual factor. Some of the facts properly belonging to this division of the subject are not referred to at all: *e.g.*, the temporary substitution of a fictitious personality by a sustained effort of imagination. Dickens and other novelists had the power of assuming the personality of their characters, without any alteration of their cœnæsthesis. Here, too, we miss a reference to the effect of

greatly altered surroundings on the consciousness of self. M. Ribot calls attention to the curious circumstance that, whereas loss of skin-sensibility disturbs the feeling of personality, the loss of one of the higher senses leaves it unimpaired. He explains this by saying that sense-perceptions and ideas based on these determine our notion of objective things, but do not condition our consciousness of self. But it may perhaps be contended that great and sudden alterations of the environment produce a palpable dislocation of the normal self-consciousness. A man who has moved but very little from his home is apt to say that he does not "feel himself" when suddenly introduced into new surroundings.

This line of remark naturally leads on to the reflection that the most rudimentary type of self-consciousness is an intellectual product, which is developed *pari passu* with, and in close relation to, the representation of an external world. M. Ribot appears to regard the intellectual idea of self as a convenient framework or "schema" which the real self is always ready to adopt if consciousness happens to be present, but which is in no way necessary to its existence. I confess that I am unable to follow his meaning here. I cannot understand how a mere sum of nervous processes, continuous in space and time, or an accompanying series of bodily feelings continuous in time, can transform itself even into the most elementary form of an *ego*. This idea of self is surely in every case the work of the comparing and constructing mind. And, on the other hand, may it not be said that the failure of the disordered mind to unify its past and present in a single self may be referred quite as much to an intellectual as to an emotional cause, *viz.*, the inability to allow for a certain amount of change of experience? No doubt, M. Ribot is right in viewing the organic feelings as a main ingredient in the materials which the mind necessarily uses in building up the idea of self; but they do not, so far as I can see, constitute that idea. Even in the abnormal conditions described by the author we still see the intelligence, enfeebled though it is, striving to piece together a new self. On the other hand, there appear to present themselves in the case of the lower animals all the conditions enumerated by M. Ribot without any idea of self resulting, just because the specific intellectual impulse is wanting.

To say all this is simply to point out the limits of physiological explanation in psychology, not to disparage such explanation. M. Ribot is not a mere physiologist, but a well-read psychologist as well. And I have little doubt that he would be ready to allow that there remains a distinctly psychological problem of personality after physiology and pathology have said their last word. But in the present volume he seems to lose sight of this truth. The frequent polemic with the metaphysicians, *e.g.*, pp. 86 ff., and most of all, perhaps, the remarks on Mill's confession of the insolubility of the problem, p. 169., seem to imply that M. Ribot goes with

the pure physiologists in denying to introspection any part in the elucidation of mental problems like this of personality. This must be my excuse for dwelling so long on the point, and in so doing seeming almost to take up an unfriendly attitude towards a book with the aim and method of which I am on the whole in such cordial sympathy.

JAMES SULLY.

Æsthetik. Die Idee des Schönen und ihre Verwirklichung im Leben und in der Kunst. Von MORIZ CARRIÈRE. Dritte neu bearbeitete Auflage. Erster Theil. "Die Schönheit. Die Welt. Die Phantasie." Zweiter Theil. "Die bildende Kunst. Die Musik. Die Poesie." Leipzig: F. A. Brockhaus, 1885. Pp. xxii., 627; xiv., 616.

Although it cannot be said that no contributions have been made in England to the theory of Æsthetics, we have certainly nothing to put beside a treatise such as the present. English criticism of art has usually taken the form of isolated suggestions worked out in a limited field rather than that of systematic theorising on the whole subject of art. This may by some be considered an advantage, as making easier for the critic the purely receptive attitude towards works of art—the fixing of the attention on the impression received without any attempt at judgment of it by arbitrary rules such as were laid down by English and French critics of the last century; and, no doubt, there is some advantage in this attitude as compared with that of the older schools of criticism. At the same time the absence of accepted philosophical principles carries with it greater disadvantages. The present work is well fitted to make clear how much is gained by treating art from a philosophical point of view. It has, besides, the merit of combining with philosophical method an appreciation of art for its own sake and a power of expression sufficient to have made the author's reputation as a purely literary critic. One of the best features of the book is that, whenever it is possible, the judgments of artists on their own art are taken as the basis of the exposition; and perhaps the great advantage that a German has over an English critic, in an attempt to treat systematically the science of æsthetics, consists in his having behind him a far larger body of theorising by artists themselves both on art in general and on the limits of the special arts.

The mode of treatment adopted in the present work will be best understood from a sketch of the author's general view as developed in vol. i.; but before proceeding further it may be well to give the briefest possible indication of the chief divisions of Prof. Carrière's book. The more general problems of the philosophy of art, the definition of beauty, the relation of beauty in art to beauty in nature, and the character of æsthetic ends as distinguished from

other ideal ends are the subjects of vol. i., the three sections of which are entitled, (1) "The Idea of Beauty" (pp. 1-238), (2) "Beauty in Nature and Spirit; the Material of Art" (pp. 289-434), and (3) "Beauty in Art" (pp. 435-627). This general Part is followed by the treatment of the particular arts in vol. ii., where they are grouped under the heads of "Plastic Art" (pp. 1-329), "Music" (pp. 330-488), and "Poetry" (pp. 489-616).

"The Beautiful" is defined, at the opening of Vol. i., as the harmony of the manifold of feeling and the unity of the idea in a sensible form the perception of which gives immediate pleasure. The element of feeling in art is the individual or personal element, which is the element of concrete reality. It is by reason of this element that a work of art is incapable of complete analysis. The union of the ideal with the sensible element in beauty is manifested in this, that, while beauty cannot be demonstrated to another but must be felt by each, yet at the same time each seeks to obtain from others agreement with his own æsthetic judgments. Beauty as it is perceived in nature is superior to the beauty of art in so far as art cannot completely reproduce all the impressions that are got from any natural object; on the other hand, impressions of beauty occur scattered in nature and can only be obtained at different times and from selected points of view. Art, by the action of the "phantasy" or shaping imagination, collects these scattered impressions and gives to the ideal it has created an embodiment in an individual form. The phantasy has the mediating function in relation to the unity perceived in beauty that is ascribed by Kant to the faculty of imagination in relation to the reason and the understanding. Ideal beauty is for the "phantasy" what the concept is for the reason, what the idea of good is for the will. The world of sensible appearances, which provides the phantasy with material, has more significance for the artist than for the man of science, whose interest is in the general, or for the man of action, to whom the internal disposition is the chief thing. The end of art is to bring into harmony "the manifold of feeling" and "the unity of consciousness" in a perfectly individualised concrete form. It is thus equally distinct from the ends of science and of morals, although the same ideal unity is expressed in all three.

What is to be remarked especially in the author's treatment of his subject throughout is that the distinction between the æsthetic, the scientific and the ethical points of view which he states in the form of a general principle is kept perfectly clear in practice. It is not unimportant to draw attention to this point, for here more than anywhere else the advantages of the philosophical treatment of æsthetics become obvious. The distinction of art, science and morals is indeed a current one in England as elsewhere. But if men of science—the word "science" being taken in its widest sense—are no longer required on every occasion to re-establish the distinction between their own and the

ethical point of view, certainly artists are not in the same fortunate case. We need not go far to find the maxim of "art for the sake of art" treated as a slightly immoral paradox. To quote it in the original French is usually considered an aggravation of the offence against ethics implied in the statement of it. More than ever instructive is it, therefore, to find a German writer who, as we shall see, cannot be accused of neglecting or undervaluing the ethical side of things, treating this formula in effect as a postulate of æsthetic science and of all actual artistic work. Beauty, Prof. Carrière says, is its own end and must be loved for its own sake (i. 264). "No other demand, therefore, may be made of art than that its work shall be beautiful. He who would turn aside the work of the artist for other ends and make it serviceable to other aims takes away the freedom of art and lowers that to a means which fulfils its destination only as an end for itself." The security in the statement of this position and the consistency with which it is taken as a basis throughout can only be explained by the habit of considering art in the light of philosophical principles. From the philosophical point of view it becomes clear at once that in whatever sense truth and virtue are ends in themselves, in the same sense beauty also is an end in itself.

The character of æsthetic contemplation most generally recognised is "disinterestedness". This character has been made use of in psychology to distinguish æsthetic pleasures from mere impressions of sense and the pleasures of "the æsthetic senses" from those that have not the æsthetic character because they are not capable of being shared. Prof. Carrière, while not omitting to bring this out clearly, suggests further application of the character of disinterestedness in the distinctions he draws between the artistic modes of expression and those that are related to them but are of a mixed character. An example of this kind of application is given in the course of a discussion of the relations of poetry to the artistic modes of prose (ii. 501-4), which follows an account of the separation of verse as the language of art from prose as the language of science.

When poetry and philosophy (which at first included science) were as yet undistinguished, their common organ of expression was verse; afterwards, when the desire was felt to describe in detail objective facts of history and of nature, prose, the language of daily life, was elaborated into a new organ of expression adapted to this new purpose. As knowledge returns to unity, as more and more laws come to be grouped under a single law, it again becomes possible to make science the material of poetry, to express truth in the rhythmical form of emotional speech. Not only is this so, but all along the relations of poetry and science are closer than those of science and the other arts. Thus the writing of history, for example, is susceptible of an artistic form comparable to that of epic poetry. And the dialogues of Plato, so far as living persons are represented in them having individual

features, are related to dramatic art. The historian, however, is restricted by facts and by the actual order of events; and the end of philosophic writing is not the concrete presentation of character, but truth in its generality. Here therefore the artistic element either expresses itself imperfectly or is something extraneous to the end of the writer. Again oratory, in its emotional element, has a certain resemblance to lyric poetry. But in listening to an oration the mind is not allowed to rest in æsthetic enjoyment; an appeal is made to the will: hence poetry does not permit the rhetorical except as an element in a whole, as for example in the drama.

It has been said that the true antithesis of poetry is not prose but science. Prof. Carrière's discussion of the relations of the various forms of literary art shows us in what sense this may be accepted. We may say with a certain truth that prose is antithetical to poetry not in itself, but only in so far as it is the organ of science; but we may equally well select another use to which prose may be put, namely, its use as a means of influencing action, and oppose this at once to its artistic elaboration and to its use as a means of communicating knowledge. In this way we arrive at rhetoric as a second antithesis to poetry. This antithesis is better than the first; for, as has been seen, it is especially by the absence of disinterestedness that oratory is distinguished from lyrical verse; and disinterestedness has been selected as preeminently the character of art. On further reflection we find that this character of disinterestedness ought not to be taken absolutely as the character of art, but is really common to it with science and philosophy. Now rhetoric, with respect to this character, is equally opposed to philosophy and science on the one hand and to art on the other. And the best critics have found the rhetorical spirit as inconsistent with the spirit of poetry as it is with the spirit of philosophy. On the contrary there is no absolute inconsistency between poetry and science. A truth of science, as Prof. Carrière says, may become poetical under impassioned contemplation.

The element of "strangeness" in beauty, referred to in a well-known passage of Bacon's *Essays*, has of late played an important part in æsthetic theories developed from quite different points of view. It has been made by literary critics the distinctive character of Romantic art, and by Darwin (in the *Descent of Man*) the starting-point of the earliest development of æsthetic feeling in the human race. Both these views have points of contact with Prof. Carrière's account of the origin of art. The mind, he says, in order to obtain æsthetic pleasure from the forms of external things, has need of the stimulus of the unaccustomed. An example of the pleasure thus obtained is seen in the morbid attraction of the horrible and of all strong stimulation (i. 10, 254). The emotion obtained from the unaccustomed does not, however, in itself constitute æsthetic pleasure. There is need further of a

return of the mind on itself after its movement outwards, a calming of the internal agitation caused by this movement. Art brings about that union of "the idea" and of "feeling" in which the harmony of beauty consists by first increasing the intensity of conflicting feelings and then imposing on them "a law of measure," a law in which "freedom" and "order" are reconciled.

Joy in the harmony of beauty proceeds from perception in this harmony of the completion of our own being, the accord in ourselves of nature and spirit, of unity and multiplicity. It has been rightly said that man first perceives external beauty under the form of human personality; hence the personifications in mythologies. And, although afterwards the conception of beauty becomes universalised, it always remains true that as without spirit there is no beauty, so also there is none without sense.

In all the arts equally there is reconciliation of nature and spirit, of sense and the idea; but this reconciliation is effected in different ways. Plastic art is objective, as being a representation of bodies in space. Music is subjective, as having feeling for its content and time for its formal condition. Poetry is especially "the art of the spirit"; uniting the forms of plastic art, "the art of nature," and of music, "the art of feeling". Poetry differs from music and the plastic arts in starting with thoughts instead of feelings or images; but the thoughts expressed by the words of a poem are not there simply for their own sake, but in order to produce in the minds of others the images and feelings that are in the mind of the poet. A poem, both as a whole and in every part, is the expression of a thought in the concrete form of imagination; as a whole and in every part it is also submitted to a musical law, a law of unity in change, which corresponds to a law of the fluctuations of feeling. The author finds in the history of the arts a support for his classification; contending that the objective arts, or arts of nature, are the first to attain perfection, then the subjective arts, or arts of feeling, and lastly those in which there is a balance of the two elements. The same classification is applied to each group of arts in turn. Of the plastic arts architecture is said to be predominantly objective as deriving its forms from external nature; sculpture in a sense subjective, since it begins with the human form, treating this as an expression of the human spirit; while in painting there is co-existence of the objective and the subjective points of view. Music, on the same principle, is considered under the heads of "instrumental music," "vocal music," and the "combination of vocal and instrumental music" (in opera, &c.). Lastly, poetry is regarded as objective in the epic, subjective in the lyric, and as a union of epic and lyric elements in the drama.

The general principles here may be traced to Lessing's *Laocoon;* the grouping of the particular arts and the theory of the three stages of art to the influence of Hegel. These last cannot be regarded as an established part of æsthetic science, as the prin-

ciples derived from Lessing can; but at least they give occasion for abundance of interesting comparison of the methods of the various arts and their diverse modes of treatment of similar subject-matter. It is, however, a curious example of the power of theory to modify the facts when, in the middle of an interesting passage on the relations of artistic genius to its predecessors and to the past development of the race, we find the author illustrating the general law of dependence by a remark which implies that the culmination of dramatic art in Shakespeare was impossible till the epic and the lyric had been perfected in English literature (i. 537). At the same time, while a law of the development of poetic art seems here to be forced on the facts rather than inferred from them, no attempt is made in Prof. Carrière's classification to subordinate one art to another in accordance with this law. Each is said to be, in its own manner, an expression of the whole. This absence of any attempt to place the arts above or below one another in rank is an example of avoidance of the dangers of the method of purely speculative deduction, to which, indeed, it was from the first the author's aim to oppose a more concrete treatment of æsthetic questions.

According to the author's view, the ideal unity expressed in art, in science and in religion is essentially the same. But here again, as has been seen already, he does not subordinate any one of these ideal ends to another. Indeed, he says explicitly, "Art, Religion, Science, each of these in its kind is a highest point, a summit of human life" (i. 287). The metaphysical doctrine stated above implies, however, that each ideal has relations to the others; and in one place beauty is described as the completed form, in the world of appearances, of the true and of the good. In all art we are to see the reconciliation of the principles of order and freedom, and in the drama especially the reconciliation of the individual with the moral order of the world.

Since the drama, in the author's view, if not the supreme, is yet the most developed form of poetic art, as poetic art is of art in general, this application of his metaphysical doctrine may be selected for special examination. But first of all it is necessary to point out that whether this theory be accepted or not, it in no way implies a departure from the most general principle of æsthetic criticism, that art must be judged according to its formal quality. For this theory is an attempt to determine the relation of matter to form in art, not an attempt to substitute judgment on matter for judgment on artistic form. It affirms that actually the highest types of dramatic art, already accepted as such on grounds distinct from any opinion about their meaning or purpose, will be found as a matter of fact to contain a reconciliation of man with the external order, and that this order is conceived by the dramatist, consciously or unconsciously, as ethical. The hero of a tragedy, according to this view, is represented as triumphing (at least subjectively) by submission to the moral order of the

world, or as crushed through resisting it. The same theory is applied by the author to comedy. The reconciliation that is the end of the drama is here brought about in the mind of the spectator by the representation of that which is really deserving of contempt as in conflict with the moral order, and in presence of this, the true reality of things, as appearing in its intrinsic nothingness.

A theory such as this is not open to the objection that it is a direct application of ethical canons to art; and we may admit that Prof. Carrière's theory explains some dramatic effects. To take an example from tragedy, the background of *Macbeth* is undoubtedly a moral background. But when we try to apply this theory, say to *Hamlet* and *Lear*, especially the last, it seems less adequate. An interpretation of these plays in terms of an ethical theory of things can only be carried out (as Prof. Carrière tries to carry it out in the case of *Lear*) by the selection of episodes. For in these most of all among modern dramas we are made conscious that behind "the moral order of the world," the creation of the human spirit, are the elder powers—"Fortuna omnipotens et ineluctabile fatum". Perhaps fate is most prominent in the ancient, fortune in the modern drama. And the fate of the Greek dramatists has in general more of an ethical character than the impersonal background of Shakespearean tragedy. An illustration of this distinction may, however, be found in *Macbeth*, where the ruling conception approaches nearer than elsewhere in Shakespeare to the Greek fate. But in the ancient as well as in the modern drama the ethical character belongs rather to the hero of the tragedy, who is brought into conflict with a non-moral order of things, than to anything in the external order itself. What is said, in this mode of considering it, of tragedy, ought to be applicable, in Prof. Carrière's view, to comedy also. Now when we consider the higher kinds of comedy and the humorous treatment of things generally as opposed to the tragic, is there not just as much difficulty in reconciling his theory, say, with the treatment of life by Cervantes and Molière? Can the non-ethical character of the background of human life be brought out more strongly than it is, for example, in *Don Quixote* and in *The Misanthrope?*

This does not mean that the higher forms of art contain no solution of problems that are at least in part ethical. It shows, however, that the view taken of the final questions of æsthetics must depend to some extent on the kind of philosophy we start with. Perhaps the objection may be made here that the questions now touched upon, whether the author's view or that which has been suggested in contrast with it be accepted, are not properly æsthetic questions at all; that the irrelevant consideration of subject-matter has been introduced in a new shape,—if not by the application of ethical tests to art, then by the application of metaphysical tests. The reply to this objection has been partly

indicated above. The question discussed is not "What is the true conception of the universe?" but "What is the ruling conception in works of art already admitted to be highest in their kind?" And it is not proposed to pass judgment on a work of art according as it embodies a true or a false theory of things. The value of a work of art, it is acknowledged, must be decided by the æsthetic impression got from it and by nothing else. At the same time, anyone taking this view may or may not hold that, as a matter of fact, in the highest poetry a true theory of things will be found implied.

It is not, however, in any theory of the relation of artistic form to different kinds of philosophical or ethical content, in whatever way such a theory may be understood, that we ought to find the characteristic doctrine of a treatise on Æsthetics. The central idea of Prof. Carrière's book is rather to be seen in his manner of viewing beauty as consisting in a certain unity of idea combined with vividness of distinctly individualised feeling expressed in concrete form. It is difficult to see how the elements of the general conception of the beautiful could be better indicated than in Prof. Carrière's formula; and he never allows this formula to become a mere generality, but constantly applies it with success to the decision of actual æsthetic questions. We have, for example, an interesting application of one part of the formula when he explains the strength of the impression made by the depth of meaning and clearness of form of the masterpieces of Greek tragedy from the repeated introduction on the stage of the same myth and consequent absence of interest either on the part of the dramatist or the spectator in the subject-matter as distinguished from the form. In confirmation of his view of the subordinate position of "invention" as an element in poetic art, he points out that modern dramatists also have seldom invented their plots, but have taken their material as much as possible from history or from stories already extant. Thus the modern as well as the ancient dramatist has been able to gain freedom to impose on his special subject-matter the unity of idea characteristic of all art. But while this unity is shown to be an essential element in a work of art, we are never allowed to forget that there is also a concrete element, the element of personality. For the assigning of minor artistic significance to interest of plot and to details of life does not, with the author, tend to pass into an exaltation of the element of generality such as would make art merely the expression of an idea and nothing more. The individual element in art, indeed, is not this element of fact, of actual detail of life to which a lower place is given, but the element of vivid personal feeling. The artist has to select impressions both of inner and outer experience and impose on them the law of his own personality; and this, as Prof. Carrière shows, is what constitutes "style" in the most general sense. In his discussion of such problems as those of style and of artistic "inspiration" nothing can be better than the

way in which he assigns their due place to the unconscious and the conscious elements in genius, and to innate faculty and acquired dexterity in all kinds of artistic production. The historical relations of the artist, too, are extremely well treated. It is a favourite idea of the author, as it has been of other writers on art, to regard the artist as the organ of his time and of his race, in whom at length both his own age and the past of which it is the product have become articulate. In this view, of course, the obligations of the artist to his predecessors and his relations to the knowledge and ideas of his time are not forgotten. Sometimes even, as was pointed out in one case above, this historical view leads to a certain exaggeration of the dependence of the individual man of genius on the completion of previous stages of artistic progress. But here again it is made clear that the individuality of the artist is after all the chief thing; that the personal element must always be superimposed on the character of the artist as an organ of the race. This is especially well brought out in the section on "Style" (i. 600-620), where a distinction of Goethe is developed into a theory of the relation of mere "imitation of nature" on the one hand, and of the exaggeration of a personal "manner" on the other, to the balance of a true "style," in which the personality of the artist is fully expressed but always in such a way that the object is treated appropriately and that the universal or typical element is clearly seen through the individual expression in beautiful form.

It would be easy to multiply examples of the author's felicitous applications of his general view in comparisons of the effects of the different arts; such as his illustration from painting and sculpture of the different kinds of unity required by the epic, "the poetry of event," and the drama, "the poetry of action" (ii. 545, 587): but without references to more special discussions, which besides, would only give an inadequate idea of the interest of these volumes, enough ought to have been said already to show the importance of Prof. Carrière's book alike for literary and for philosophical criticism.

T. WHITTAKER.

Literarische Fehden im vierten Jahrhundert vor Chr. Von GUSTAV TEICHMÜLLER. 2 Bde. Breslau: Koebner, 1881 u. 1884. Pp. xv., 310; xviii., 390.

A preliminary notice of this work was given in MIND, Vol. x. 311; and the first volume of it has been referred to, with appreciation of the skill and learning it displays, by Mr. Benn in the preface to his *Greek Philosophers*. Whether English students of Greek philosophy will go beyond Mr. Benn's opinion, that Prof. Teichmüller's researches "demand some public acknowledgment"—such as even a short review can give—seems doubtful.

Prof. Teichmüller has tried, he says in his Preface, "to recover her royal dignity for Philosophy," amid what he characterises as the general plebeianism of modern thought. This has necessarily led him to deal with Plato. And to understand Plato's teaching we must find out the chronological sequence of his works, and their relation to the *Parteien* of his time. "The Platonic question has entered on a new stadium:" all previous methods in its investigation have failed: Zeller (whom Prof. Teichmüller always recommends to his classes as giving the best introduction to such investigations) is absolutely deficient in method, or at best employs only the "principle of the majority": Susemihl and other well-known names are only historically interesting. Prof. Teichmüller's own method is the "comparative method with unlimited perspective": which admits of a twofold division, into special and universal. The former is based on the artistic character of Plato's Dialogues, "which is here" (in these volumes) "for the first time clearly settled": the latter is a "heuristic" method, declared to be unknown to Logic hitherto, and based on the "principle of co-ordination,"—described also, in Prof. Teichmüller's peculiar language, as "syllogismus investigatorius".

The general result attained by the application of the method is, that the dialogues are *Streitschriften*, polemical writings called forth by the various "literary feuds" in which Plato, according to Prof. Teichmüller, was throughout his life engaged. Thus (1) the *Phaedo* and the *Symposium* would not have been written, at least in the form in which we know them, but for Polycrates's attack upon Socrates (i. 122); and (2) the *Laws*, containing references to the *Nicomachean Ethics*, while the *Nicomachean Ethics* contains none to the *Laws*, furnishes a reply to Aristotle's criticisms, *e.g.*, on the ἑκούσιον, of Plato (i. 162 ff.). Conclusions like these—which make two of the most important of Plato's works merely answers to an obscure rhetorician, and presuppose the composition of the *Ethics* by Aristotle at the age of 32 or 33—require firm premisses and unimpeachable argument. In a review it is not convenient to go into such detail as Prof. Teichmüller's exposition of his theory in (2) would demand: he gives six "quotations or allusions" in the *Laws*, which he interprets as bearing on Aristotle's criticism: it must suffice here to express an opinion that no such reference is unavoidably forced upon an unprejudiced reader, and that several of his attempted references (*e.g.*, that about the παναίσχης, pp. 172, 3) postulate the necessity of *literarische Fehden* between any two writers who in the same age utter any but the same thought about the same thing. In regard to (1) the *Phaedo* and *Symposium*, Prof. Teichmüller may best speak for himself, with nothing extenuated nor aught set down in malice. "As Polycrates's miserable accusation against Socrates," he says, "had appeared, and as Isocrates, the most eminent stylist of the time, had also lowered Socrates's

reputation by saying that Socrates had never been so highly praised as by his would-be accuser Polycrates, who had clumsily fabricated the story of Alcibiades's being taught by Socrates, we can understand why Plato, speaking under the mask of Socrates, was disposed to resist these slanders, and on the one hand to write his *Phaedo*, on the other to use the occasion of his investigations into the being of love or of philosophy, in the *Symposium*, for an exposition—of the relations between Socrates and Alcibiades." Prof. Teichmüller's method may fairly stand or fall by this instance. Anyone who accepts it here will find little difficulty in its other results; will acquiesce in the dating of the *Phaedrus* considerably later than the *Republic*, and in the determination of date for the *Protagoras* by the mention of peltasts, who must be Iphicrates's peltasts, because the allusion thus gains in point; nor will he shrink from the conclusion that Dionysodorus, in the *Euthydemus*, is Lysias. True, the very Germans have been surprised at this (the "many surprises" which his researches offer being mentioned with pardonable pride by Prof. Teichmüller himself), but then it is only because they do not see that (1) Plato meant to hit Antisthenes through Lysias; (2) Diogenes Laertius quotes Antisthenes as calling himself παλαιστικὸς; (3) the name Dionysodorus is that of a teacher of strategy in Xenophon's *Memorabilia* (iii. 1, 1); and (4) therefore Lysias must be Dionysodorus. One more step, and we shall find ourselves accepting the result that Plato is (the phrase would lose by translation) a "*deutlich bestimmtes Centrum von Co-ordinationen*" (ii. 9).

The labour and ingenuity which these speculative combinations show will probably have the effect called stimulating on some readers: it is useful now and then to ask questions that can have no answer, or even to get answers to them. More readers perhaps will be deterred by the curious self-assertion, and hostility to holders of different opinions from his own, which Prof. Teichmüller does not care to repress. One might almost fancy that in the subjectivity of his method he has read himself into Plato; and that his own constant polemic has filled the fourth century B.C., in "unlimited perspective," with a good deal of the "literary feud" he there discovers.

ALFRED GOODWIN.

VIII.—NEW BOOKS.

[*These Notes (by various hands) do not exclude Critical Notices later on.*]

Institutes of Logic. By JOHN VEITCH, LL.D., Professor of Logic and Rhetoric in the University of Glasgow. Edinburgh and London: Blackwood & Sons, 1885. Pp. ix., 551.

This considerable treatise—"designed both for those who are commencing the study of Logic and for those who have gone beyond the elements to the higher questions of the science"—is laid out on the traditional lines. Parts ii.-iv. deal successively with "Concepts and Terms" (pp. 165-219), "Judgment" (pp. 220-336), "Inference" (pp. 337-551), after a consideration of "The Laws of Thought" (pp. 112-164), with a view of "Logical Psychology" and "Historical Notices," in Part i. The historical notes interspersed throughout give the work a special interest and value, and there is abundance of lively polemic (directed mainly against Hegel on the one hand and Mill on the other) to enliven the exposition; which, for the rest, should receive all the attention due to the author's mature experience as a logical teacher.

Scottish Philosophy: A Comparison of the Scottish and German Answers to Hume. By ANDREW SETH, M.A., Professor of Logic and Philosophy in the University College of South Wales and Monmouthshire. Edinburgh and London: Blackwood & Sons, 1885. Pp. 218.

The first outcome of a Philosophical Lectureship in the University of Edinburgh, recently founded by Mr. A. J. Balfour for a term of three years and held by Prof. Seth. It was the desire of the founder that "the Lectures should be a contribution to philosophy and not merely to the history of systems"; accordingly, in the first course of six (delivered in the spring of last year), historical is subordinated to material consideration. The subject is one that called eminently for treatment, and appears (on a first glance) to have been handled in a very comprehensive and equitable spirit. The topics taken up are, in order: (1) The Philosophical Presuppositions: Descartes and Locke; (2) The Philosophical Scepticism of Hume; (3) Reid: Sensation and Perception; (4) Reid and Kant; (5) The Relativity of Knowledge: Kant and Hamilton; (6) The Possibility of Philosophy as System: Scottish Philosophy and Hegel. In his second course, Prof. Seth will pursue the consideration started in the final lecture.

Hobbes. By GEORGE CROOM ROBERTSON, Grote Professor of Philosophy of Mind and Logic in University College, London. ("Philosophical Classics for English Readers.") Edinburgh and London: Blackwood & Sons, 1886. Pp. vii., 240.

"Small as this volume is, untoward circumstances have prevented its completion till long after the first third of it was already in print. The delay is only too likely to have affected the unity of treatment; still, the original design has been adhered to in the main. That design was, even within such narrow compass, (1) to bring together all the previously known or now discoverable facts of Hobbes's life; and (2) to give some kind of fairly balanced representation of the whole range of his thought, instead of

dwelling only upon those humanistic portions of it by which he has commonly been judged. Readers will not proceed far before they apprehend the reason why the account of the 'System' has here been imbedded in the 'Life'—in departure from the usual order of exposition in books of the kind. More than of almost any other philosopher, it can be said of Hobbes that the key to a right understanding of his thought is to be found in his personal circumstances and the events of his time."

The Politics of Aristotle. Translated into English, with Introduction, Marginal Analysis, Essays, Notes and Indices, by B. Jowett, M.A., Master of Balliol College, Regius Professor of Greek in the University of Oxford, &c. Vols. i., ii. 1. Oxford: Clarendon Press, 1885. Pp. cxlv., 302, 320.

This important work—first begun by Prof. Jowett about fifteen years ago in connexion with his Platonic studies—will be reviewed later on. It has come to hand at the last moment, and there is time only to mention that while Vol. i. consists of Introduction (after a few pages of Preface) and Translation, Vol. ii., of which the present first part is composed of Notes, will be completed shortly (in a second part) by a collection of Essays, which promise to be of great interest. They will deal not only with the *Politics* (in a variety of aspects) but also with the life and, to some extent, the general philosophical work of Aristotle. The Indices, due to the hand of the translator's "friend and secretary," Mr. M. Knight, are of notable excellence.

Kant's Introduction to Logic and his Essay on the Mistaken Subtilty of the Four Figures. Translated by Thomas Kingsmill Abbott, B.D., Fellow and Tutor of Trinity College, Dublin. With a few Notes by Coleridge. London: Longmans, Green, 1885. Pp. 98.

To what he has previously done for the spread of Kant's doctrine, by translation of the more important ethical works, Mr. T. K. Abbott now adds by his present version of the general introductory part of the *Logik* (issued by Kant's pupil Jäsche in 1800), pp. 1-78, and also of the earlier essay *Die falsche Spitzfindigkeit der vier syllog. Figuren* (1762), pp. 79-95. The body of the *Logik* he leaves aside, as having in it too much of the traditional School-doctrine and not enough of Kant's own thought to justify translation. The notes taken from Coleridge's copy of the *Logik* in the British Museum are but three short jottings.

Outlines of the History of Greek Philosophy. By Dr. Edward Zeller. Translated with the Author's sanction by Sarah Frances Alleyne and Evelyn Abbott. London: Longmans, Green, 1886. Pp. xv., 363.

The *Grundriss* here translated appeared at the end of 1883, having been undertaken by the distinguished author (in response to requests for such a general sketch of Greek philosophy from him) as soon as he had completed the third edition of his great historical work. A fit interpreter was at hand in Miss Alleyne, who had already done excellent service in her rendering of various parts of the *Geschichte;* but we learn (now for the first time), with sorrow, from the preface supplied by the co-translator who took up the task at p. 90, that "in the prime of life and in the full vigour of her powers she died, after a month's illness, August 16, 1884". Mr. Abbott pays, from personal knowledge, a high tribute to her intellect and character; and the loss to the cause of philosophical study in this country by her death will be widely felt. She already had it in view, on comple-

tion of these *Outlines*, to add the second division of Part iii. of the *History*, concluding the whole work, to the *Eclecticism* which, in 1883, came last from her diligent pen. Intended, in the first instance, for elementary students, the present volume—from the hand of such a master as Zeller—has plenty of instruction for more advanced readers also. Naturally, it follows the lines of the *Geschichte*.

Charles Darwin. By GRANT ALLEN. ("English Worthies.") London: Longmans, Green, 1885. Pp. 206.

The author "has endeavoured to present the life and work of Charles Darwin viewed as a moment in a great revolution, in due relation both to those who went before and those who come after him"; and, bringing a wide knowledge with perfect enthusiasm to the task, he has produced an effective and even brilliant piece. The psychological and other humanistic implications of Evolutionism are, of course, not overlooked, whether as suggested by Darwin himself or as worked out in the system of Mr. Spencer; but by the side of these some other names of the century that have passed before as great need hardly have been held in such small account as at p. 198.

The Miscellaneous and Posthumous Works of HENRY THOMAS BUCKLE. A new and abridged Edition. Edited by GRANT ALLEN. 2 vols. London: Longmans, Green, 1885. Pp. viii., 433; viii., 421.

Of all the reactionaries or the laggards who failed to get upon the evolutionary track, Buckle receives the hardest cut in the *Charles Darwin*. Was it because Mr. Allen had just been wrestling with the labour of bringing Miss Taylor's original three bulky volumes into the compass of these much handier two? It can have been no easy task, and the service rendered to Buckle's memory by the omissions is considerable. As the work now stands, less than half (while yet enough) of Vol. ii. is occupied with "Extracts from the Common Place Book"; "Fragments" run back from ii. 254 to i. 200; preceded by the longer piece "Reign of Elizabeth" from i. 143. Miss Taylor's Biographical Notice, and the originally reprinted papers "Influence of Women," "Mill on Liberty," with Letter on Pooley's Case, come first.

Movements of Religious Thought in Britain during the Nineteenth Century. Being the Fifth Series of St. Giles' Lectures. By JOHN TULLOCH, D.D., LL.D., Senior Principal in the University of St. Andrews. London: Longmans, Green, 1885. Pp. xi., 338.

Of this series of eight lectures, that which has most philosophical interest is the sixth, on "John Stuart Mill and his School". Most of the school seem to the author to have been entirely wanting in "spiritual instinct". The younger Mill, although, like his father and the rest of "his school" (described as founded by James Mill and as including G. H. Lewes), he insisted on judging Christianity from its worst instead of from its best side, had "far higher instincts" than the more consistent members of the school such as Grote, who was "more a Millite than John Stuart Mill himself". Yet, as "men are not supposed to be and cannot be experts in anything the very rudiments of which they have never learned," we ought not to look upon his writings "as possessing any special authority on the subject" of religion. He has done service, indeed, to religious thought "in indicating everywhere the moral side of religion," but his chief service is to have shown by "clearing the marches between the great lines of thought" that "determinism in philosophy leads to the negation

of all religion". Henceforth it is clear to both sides that "religion may be tacked on by faith or superstition to a Determinist Philosophy or Doctrine of Necessity, but it cannot be rationally evolved from it".

Sermons. By MARK PATTISON, late Rector of Lincoln College, Oxford. London: Macmillan, 1885. Pp. 298.

These thirteen sermons by Pattison—nine University and four College, mostly belonging to the time of his mental maturity, from 1861 to 1871, but including four of an earlier period (1847-51)—have not the intrinsic philosophical importance of Butler's famous fifteen; but they are a real contribution to philosophy all the same, or at least they disclose a more serious philosophical vein in their author's mind than any of his other writings. Some of them give, with a certain continuity, a view of the relation of religion to the historical development of philosophy early and late, that may serve henceforth as a general framework for the celebrated essay of 1860, in which he described with such striking effect the "Tendencies of Religious Thought in England, 1688-1750". These and others also go some way to defining his ethical position. We hope to return, later on, to a volume which "the Editors" (whoever they are) have done a real service to the philosophical thought of the time in giving to the public.

The Idea of God as affected by Modern Knowledge. By JOHN FISKE. London: Macmillan, 1885. Pp. xxxii., 173.

Man's Destiny (see MIND, Vol. x. 302) was a first Address to the Concord School of Philosophy, and is followed by this second. Mr. Fiske was glad of the opportunity of now speaking about Theism as, in the former Address, he spoke of man's future—in both cases defining more precisely, with the full consciousness first reached "two years ago" (p. xxi.), but otherwise not altering, the positions which, as he contends, he had already taken up in *Cosmic Philosophy* (1874) and *The Unseen World* (1876). Without abating aught from his former condemnation of the teleological method in science, he sees "no reason why, when a distinct dramatic tendency in the events of the universe appears as the *result* of purely scientific investigation, we should refuse to recognise it". He sought to prove such tendency in *Man's Destiny*, taking it, though in no "limited anthropomorphic sense," as "the objective aspect of that which, when regarded on its subjective side, we call Purpose". And so now he urges, "there is a reasonableness in the universe such as to indicate that the Infinite Power of which it is the multiform manifestation is psychical, though it is impossible to ascribe to Him any of the limited psychical attributes which we know, or to argue from the ways of man to the ways of God". Taken together, the two Addresses contain the bare outlines of a theory of religion which the author hopes at some future time to elaborate into a work on the true nature of Christianity.

Philosophy and Experience. An Address delivered before the Aristotelian Society, October 26, 1885 (being the Annual Presidential Address for the Seventh Session of the Society). By SHADWORTH H. HODGSON, Hon. LL.D., Edin., Hon. Fellow of C.C.C., Oxford, President. London: Williams & Norgate, 1885. Pp. 123.

The President of the Aristotelian Society here passes from the distinction between philosophy and science (drawn in his last Address) to the distinctions within philosophy itself, in the broader sense in which it "embraces all analysis of fact, including the contrast between itself and science". The first two rubrics of philosophical method, "Distinction of

Aspects" and "Analysis of Elements," having been briefly recalled, the third and fourth rubrics, "The Order of Real Conditioning" and "The Constructive Branch of Philosophy," are treated at greater length. Under the third rubric the positive sciences enter the philosophical system "on the footing not of being prescribed to, but of prescribing". Yet the incorporation of the whole system of the sciences would not complete philosophy. Positive science, like common-sense, treats objects as rounded-off totals, as "absolutes"; while for philosophy experience as known remains always bounded by an unknown beyond itself. Construction of the unknown out of previous analysis is the problem of the fourth rubric of philosophy. Of this Unknown we can only affirm with speculative certainty *real existence*, *infinity* and *continuity with the known*. But the questions of the fourth rubric, the Constructive Branch of Philosophy, "escape the grasp of speculation, only to fall within the province of practice, and its highest function of practical judgment, conscience". Thus, without departure from the basis of experience, Philosophy becomes in the full sense a *Rationale of the Universe;* and there is no problem, whether soluble or not, that does not at least "readily fall into rank, and present itself for treatment, under some one or more of its four rubrics, so soon as the method of asking first *what* and then *how comes* is applied to it".

Ecclesiastical Institutions: Being Part vi. of *The Principles of Sociology.* By HERBERT SPENCER. London: Williams & Norgate, 1885. Pp. 671-853.

The delay of three years and a half since the publication of Mr. Spencer's previous Part, *Political Institutions*, has been mainly due, readers will grieve to learn, to the "ill health which has, during much of the interval, negatived even that small amount of daily work which he was previously able to get through": the remaining two Parts of Vol. ii.—*Professional* and *Industrial Institutions*—may, he hopes, be more promptly completed; but, he adds more despondingly, "it is possible, or even probable, that a longer rather than a shorter period will pass before they appear—if they ever appear at all". The final chapter, "Religious Prospect and Retrospect" (pp. 827-43), is, save for an introductory paragraph with one added sentence before the last and a few verbal improvements, identical with the paper published in *The Nineteenth Century* a year ago, which gave rise to so much lively discussion.

Illustrations of Unconscious Memory in Disease, including a Theory of Alteratives. By CHARLES CREIGHTON, M.D. London: H. K. Lewis, 1886. Pp. xvi., 212.

Dr. Creighton has here written a book the special scientific value of which we have not yet had time (supposing we had competence) to estimate, but a word of immediate recognition is due to the general observations mostly contained in c. i. ("Prolegomena on Memory and Organic Memory," pp. 4-16), with which he passes to the consideration of the physiological and (chiefly) pathological facts that concern him. While making reference to different philosophical thinkers, he may be said to base mainly upon Hering's deliverance (1868) on "Memory as a general Function of Organised Matter". He has, however, so completely assimilated this idea in connexion with some suggestions that have fallen from Prof. Bain, as to be able to propound a doctrine on the relations of Memory and Generation in terms of striking felicity, which no one can read and not become curious to see how far the author may be able in the body of the work to make good his claim (p. 2), that "the description of a certain class of maladies according to the phraseology of memory and habit" is "a real description and not a figurative".

The Springs of Conduct. An Essay in Evolution. By C. Lloyd Morgan. London: Kegan Paul, Trench, 1885. Pp. 317.

The author's object has been "to provide such of the general public as have the appetite and digestion for this kind of mental food-stuff with some account of the teachings of the modern philosophy of evolution in the matter of science and conduct". Of the representatives of "science and the philosophy that is based upon science" whose teaching he has himself assimilated, probably Clifford has influenced him most. In Part i. (on "Knowledge"), for example, he follows Clifford in his exposition of the social origin of the conception of objects, and in his distinction of knowledge of objects from knowledge of 'ejects'; in Part ii. ("The Study of Nature") he adopts the position that the only Uniformity of Nature we can know is "a practical uniformity"; and in Part iii. ("Through Feeling to Conduct") he contends that there is no knowledge that has not some bearing on action. The test of truth is "prevision". "Practically our object is to be able to guide our actions aright in the future. Any theory which enables us to do this is practically a true theory." This is applied to knowledge of the past. When, for example, we say that the theory of evolution is true, we mean that from a knowledge of this theory the existing facts of biology could have been predicted. Among incidental positions may be mentioned one that has already been maintained by the author in *Nature* (against Mr. Romanes), *viz.*, that "no science of comparative psychology from the ejective standpoint is possible" (p. 164). Consciousness the author (here following Mr. Romanes) holds to be the accompaniment of delay in response to stimuli, and at the same time of "diffusion" (in accordance with Prof. Bain's "law of diffusion"), which seems to him a still more important circumstance. The positions as to conduct in general by which he leads up to ethics are that, "in aiming at efficiency we are taking our best course to obtain pleasure," while ultimately choice is "determined by considerations of happiness". He insists on the social origin of all morality properly so-called. From Mr. Spencer he takes the principle that "knowledge has to be converted into feeling before it deeply influences our actions". The end of conduct is finally stated thus: "That which, under its purely rational aspect, is greatest perfection, is, under its emotional aspect, greatest happiness" (p. 309).

Scientific Meliorism and the Evolution of Happiness. By Jane Hume Clapperton. London: Kegan Paul, Trench, 1885. Pp. xii., 443.

This is a book of 'pragmatic philosophy,' written mainly for social edification. It is at once inspired by great warmth of feeling and marked by bold and plain handling of practical questions now pressing. Some few chapters touch on matters of principle—as on "Happiness," "Development in Morals," "Evolution of Modern Sentiments". The author, while taking George Eliot's coinage for her title, also gives to George Eliot the foremost place among her teachers.

Anthropoid Apes. By Robert Hartmann, Professor in the University of Berlin. With 63 Illustrations. ("International Scientific Series.") London: Kegan Paul, Trench, 1885. Pp. 326.

This book deals chiefly with the morphology and distribution of the anthropoid apes (the gorilla, chimpanzee, orang and gibbon); but much material is also to be found for the study of their intelligence and their emotional characters, both in captivity and in a state of nature, especially in cc. v. and vi., the last of which (pp. 259-284) is entirely devoted to "Life in Captivity". The last section of c. iii. (pp. 192-209) contains a

comparison of the brain of anthropoids with the human brain, and a short discussion, anatomical and psychological, of some cases of microcephaly. It is found that in these cases the negative but not the positive characters of the intelligence of apes can be detected; "the instinctive side of psychical activity" being (as Virchow's researches led him to conclude) "almost wholly absent". In anatomical structure, on the other hand (including that of the brain), the ape-like character is often very strongly marked.

Jacob Böhme: His Life and Teaching, or Studies in Theosophy. By the late Dr. Hans Lassen Martensen, Metropolitan of Denmark. Translated from the Danish by T. Rhys Evans. London: Hodder & Stoughton, 1885. Pp. xvi., 344.

This book, the last of Dr. Martensen's three most important works to be translated into English, is a very intelligible and sympathetic presentation of the theosophical speculations of Jacob Böhme. Some introductory sections (pp. 1-52) give a short account of the life of Böhme, and of theosophy and its problem as conceived by him. The author himself distinguishes theosophy as "objective theoretical mysticism" from "subjective practical mysticism". He thus distinguishes Böhme's conception of God from that of the mystics:—"While Mysticism . . . . defines God as the unvarying nameless One, for whom every designation is inadequate and who transcends every conception, because every conception contains contrasts while God is above all contrasts, Böhme demands a God who manifests himself in differences, in contrasts, in definite relations; and only this God is to him the true God." There is a pantheistic element in Böhme; but Hegel wrongly interpreted him "in a purely pantheistic sense," having but a superficial acquaintance with his writings, and being disposed to "Hegelianise him". Böhme's special forerunners were "the whole band of German mystics, Eckehart, Tauler, Suso and the author of the *Theologia Germanica*"; and, although it is impossible to prove any direct influence, "still an indirect influence from mediæval Mysticism as well as from the Kabbala," Dr. Martensen thinks, "can scarcely be denied". He was, besides, influenced by 16th century ideas of magic and alchemy, and especially by the ideas of Paracelsus as well as "by his certainly barbarous terminology".

The Blot upon the Brain: Studies in History and Psychology. By William W. Ireland, M.D., Edin.; Formerly of H.M. Indian Army, &c. Edinburgh: Bell & Bradfute; London: Simpkin, Marshall & Co., Hamilton, Adams & Co., 1885. Pp. 374.

The papers collected in this volume deal chiefly with hallucinations and the phenomena of insanity continuous with them. "A hallucination," the author holds, "is always something pathological." "There is no dividing line between sanity and insanity. As the eye is not perfectly achromatic, the mind is probably never perfectly sane." Three papers are devoted to "The Hallucinations of Mohammed, Luther, and Swedenborg," "The Character and Hallucinations of Joan of Arc," and "St. Francis Xavier, the Apostle of the Indies"; two to "The Insanity of Power" and "The Hereditary Neurosis of the Royal Family of Spain". The subjects of other papers are "Fixed Ideas," "Folie à deux," "Unconscious Cerebration," "Thought without Words and the Relation of Words to Thought," "Left-handedness and Right-headedness," "Mirror-writing," "The Dual Functions of the Double Brain". The author has collected information from a wide range of authorities. On the whole he shows himself more anxious to give the facts copiously than to come to definite conclusions as

to their causes. In discussing "the dual functions of the brain" for example, he points out how little significance is to be attached to the statements of patients with "double personality" as to the seat of consciousness. "The insane are quick to catch at new scientific notions to explain their delusions. Complaints of being electrified and magnetised against their will have long been common. . . . In a similar fashion the medical superintendents of asylums will hear many whimsical applications of the conception of the dual functions of the brain should it become popularised" (pp. 344-45).

Fichte's Science of Knowledge. A Critical Exposition. By CHARLES CARROLL EVERETT, D.D., Bussey Professor of Theology in Harvard University; Author of *The Science of Thought.* ("Griggs's Philosophical Classics".) Chicago: S. C. Griggs & Co., 1884. Pp. xvi., 287.

Of this book (which, though issued earlier, has reached us later than the last volume of the series, noticed in MIND, Vol. x. 469) the first chapter (pp. 1-17) is biographical, the last (c. xiii., pp. 274-287) critical, all the rest expository. The author's point of view is indicated in the remark that Kant "may be regarded as the Julius Cæsar, as Hegel was the Augustus of modern philosophy" (p. 22). The exposition of Fichte is founded chiefly on the *Wissenschaftslehre*, but reference is made to his other writings, "sufficient, it is hoped, to show the relation which the results reached in this work bear to his system as a whole". The author holds that "the so-called earlier and later systems of Fichte" are "the complemental elements of a single system". "The great difference between them is found in the fact that, in his earlier works, Fichte started from psychological analysis, and moved toward an ontology; in his later works, he started from the ontology, and based his psychology directly upon this" (p. 269). Not only did Fichte's dialectical method prepare the way for Hegel, but in part his system was "wrought out with a skill that could not be surpassed". It is Hegel, however, "who makes us feel ourselves most really in the presence of the master of a constructive dialectic". On the other hand, there is more of moral inspiration in Fichte. "Hegel remains the master in the world of thought; Fichte, in that of life."

Outlines of Practical Philosophy. Dictated Portions of the Lectures of HERMANN LOTZE. Translated and Edited by GEORGE T. LADD, Professor of Philosophy in Yale College. Boston: Ginn & Co., 1885. Pp. xii., 156.

Prof. Ladd has with this translation, following upon the *Metaphysic* and the *Philosophy of Religion*, noted in MIND, Vol. x. 470, completed the first part of his scheme of introducing English readers to the series of Lotze's *Dictate;* and it is to be hoped that he will not fail to proceed with the *Psychology*, the *Æsthetics*, and the *Logic*, in regard to which he renews a conditional promise. In the case of the *Practical Philosophy*, he follows the second German edition which had gone back from the paragraphs given in the first edition as last dictated in 1880 to the earlier form of 1878—and this for the reason that the earlier cast included sections on Marriage and the Family and on the Intercourse of Men afterwards omitted. The translator (who proved his competence in the *Metaphysic*) remarks on the special interest attaching to the *Practical Philosophy* in that it gives, in default of the unwritten third part of his system, the only approach to a systematic treatment of ethics which Lotze has left; and he truly notes, among other points, that Lotze shows rare and delicate tact in discerning the weak places in the extremes of Rigorism and Eudæmonism in morals. An Index is added, as in former parts of the translated series.

On Small Differences of Sensation. By C. S. Peirce and J. Jastrow, Johns Hopkins University. Pp. 11.

An off-print of a paper in Vol. iii. of the *Transactions of the U.S. National Academy of Sciences* (read Oct. 17, 1884), giving account of a series of experiments on the pressure-sense, instituted with a view to disproving Fechner's hypothesis of discrete increments of sensation. The experiments seem to the authors to "destroy all presumption in favour of an *Unterschiedsschwelle*".

Essai sur le Système philosophique des Stoïciens. Par F. Ogereau, Agrégé de Philosophie. Ouvrage récompensé par l'Académie des Sciences morales et politiques. Paris: F. Alcan, 1885. Pp. xii., 304.

The author divides the history of Stoicism into three periods: (1) the purely Greek period (the 3rd and part of the 2nd century, B.C.); (2) the period of its propagation at Rome, during which, however, it remained essentially Greek (the latter part of the 2nd and a considerable part of the 1st century B.C.); (3) the Roman period (to the end of the 2nd century A.D., after which it was no longer a living philosophy). In c. i. the "Unity of doctrine among the first Stoics" is demonstrated. Then follows a continuous exposition of the Stoic system (cc. ii.-ix.), treated under the heads of "Being"; "The World"; "Man"; "The Criterion of Truth"; "Dialectics"; "The Sovereign Good"; "The Sage; the City"; "Theodicy and Religion". This exposition is founded as much as possible on the records of the teaching of the earlier Stoics down to Panaetius; it is unmixed with criticism, but is accompanied by references and quotations in footnotes. The last chapter (x.) demonstrates the "Preservation of the primitive doctrine among the last Stoics". The result is that, while from the point of view of literary and of general history the most important position may have to be assigned to the later Stoics, to Seneca, to Epictetus, and to Marcus Aurelius, in doctrine they added nothing to what they had received from their teachers. From the point of view of the history of philosophy and of scientific ideas, justice has not yet been done to the founders of Stoicism, to Zeno, to Cleanthes and to Chrysippus, who in their physics were the first to indicate "the antinomy of determinism which alone renders science possible and of liberty without which all morality disappears," an antinomy which they solved in the spirit of Leibniz; who in their logic made "one of the happiest efforts to explain how the existence of error does not destroy all possibility of certitude"; and who in their theory of the *summum bonum* placed morality, as Kant did afterwards, not in what is done but in the internal disposition, while they had over him "the advantage of being able to give logically a material content to the form in which consists exclusively the morality of our acts". The author seeks to show that, in spite of the paradoxes to which it was led by its clean-cut logical distinctions, Stoicism, in accordance with its metaphysical doctrine of the continuity of all being, always kept in view the shades by which opposite things and actions pass into one another. Its paradoxes, therefore, are paradoxes chiefly in form and are corrected by the spirit of the doctrine.

La Morale d'Épicure et ses Rapports avec les Doctrines contemporaines. Par M. Guyau. 3me Édition, revue et augmentée. Paris: F. Alcan, 1886. Pp. 292.

With M. Ogereau's *Stoïciens*, which may now serve as its companion-piece, has to be noted a new edition (substantially unaltered) of M. Guyau's *Épicure*, the value of which, on its first appearance, was duly appreciated in Mind, Vol. iv. 582.

Les Principes de la Morale. Par Émile Beaussire, Membre de l'Institut. Paris: F. Alcan, 1885. Pp. 307.

This work, after an Introduction on "The Present Crisis in Morals," falls into four parts: (1) "Formal Morals," (2) "Subjective Morals," (3) "Objective Morals, (4) "Metaphysical and Religious Morals". The ideas are not published for the first time, but have all been carefully reconsidered and worked into coherent form. Critical notice (already in print) is unavoidably deferred.

Éléments de Psychologie Physiologique. Par W. Wundt, Professeur à l'Université de Leipzig. Traduits de l'Allemand sur la deuxième édition avec l'autorisation de l'Auteur par le Dr. Élie Rouvier, de Pignan, précédés d'une nouvelle Préface de l'Auteur et d'une Introduction par M. D. Nolen, Recteur de l'Académie de Douai. Avec 180 Figures dans le Texte. 2 Tomes. Paris: F. Alcan, 1886. Pp. xxxii., 571, 532.

In the absence still of any English translation, this French rendering of Prof. Wundt's celebrated work should be welcome to many English students who are unable to read the original. It is specially prefaced by a couple of pages from the author himself (written at the end of 1884), as well as by a fairly appreciative summary of his psychological work from M. Nolen, to whom the translation is dedicated by a grateful pupil. Prof. Wundt, in his few paragraphs, after generally commending the exposition by which M. Ribot (in *La Psychologie allemande*) first made him known to French readers, takes occasion to correct the one false impression which he thinks M. Ribot gave, in representing the experimental movement as having decidedly gained the upper hand in Germany: however this may be hoped for in the future, it is not so at present. "In Germany, there are a number of psychological directions profoundly at variance with one another, though their representatives agree in detesting experimental or physiological psychology, and in being inclined to consider the teaching of its principles and results as a sort of blasphemy. They think of it as Dogberry did of thieves: 'For such kind of men, the less you meddle or make with them, why, the more is for your honesty'."

La Science romaine à l'Époque d'Auguste. Étude historique d'après Vitruve. Par A. Terquem, Professeur à la Faculté des Sciences de Lille. Extrait des *Memoires de la Société des Sciences, de l'Agriculture et des Arts de Lille.* Paris: F. Alcan, 1885. Pp. 174.

This volume is a careful exposition of the state of the physical sciences at Rome in the time of Augustus, based on the information given incidentally by Vitruvius in his work on architecture. The course of the exposition is accompanied in each chapter by translated extracts from Vitruvius. The chapters are: (1) "General remarks on Vitruvius and his treatise on Architecture"; (2) "Historical anecdotes"; (3) "Manners and Customs"; (4) "Mathematics—Astronomy"; (5) "Mechanics"; (6) "Physics"; (7) "Chemistry"; (8) "Natural History—Geography—Geology—Materials of Construction"; (9) Hygiene—Medicine"; (10) "Of the different species of Constructions".

Les vraies Bases de la Philosophie. Par B. Faug. Deuxième Édition. Paris: E. Dentu, 1885. Pp. 323, lii.

This book begins with a "Succinct Résumé of the principal Systems of Philosophy" of all ages and nations (pp. 1-83). Here is the information

offered (under the head of "Positivism") on contemporary English philosophy. "In England, Stuart Mill, more an economist than a philosopher, but more of a metaphysician than Littré, in his *Essays on Logic founded on Induction*, is only half a positivist; it is the same with Huxley. Both have declared that society could not exist without religious dogma" (p. 78). An Appendix of 52 pp. consists of a summary of the history of France from the Roman times, concluding with some controversial matter relating to current politics. Between the Introduction and the Appendix the author reviews the sciences from astronomy to biology (Bk. i., pp. 84-184), "refuting" Darwin and Haeckel by the way; describes "The three intelligences in man and the origin of the particular mental faculties" (Bk. ii., pp. 185-256); and discusses the question "Ought man to be abandoned to himself, or ought he to impose on himself a religious dogma?" (Bk. iii., pp. 257-316). It is concluded that "a religious dogma is indispensable to society" (p. 305). The author himself proposes an eclectic creed, the "principal points" of which are arranged in the form of three "duties towards God," thirteen "duties towards one's neighbour," and six "duties towards oneself". In order to "unite men in the same philosophical views" and thus prevent society from falling "more and more into anarchy," he thinks it is absolutely necessary "to form an assembly of men of moderate spirit," who are to "constitute a code of philosophy upon irrefutable data" (p. 315).

Les Sentiments, les Passions et la Folie. Explications des Phénomènes de la Pensée et des Sensations. Cinq Conférences faites à la Salle des Capucines en 1884. Par Amédée H. Simonin, Membre et Lauréat de la Société nationale d'Encouragement au Bien. Paris: J. Michelet, 1885. Pp. 431.

M. Simonin, who is also the author of a *Treatise on Psychology*, a *History of Psychology* and a volume entitled *Materialism Unmasked*, here undertakes to establish that "the soul exists by itself," on the ground that "its faculties called memory, will, observation, comparison, reflection, &c., have no corresponding organs in the brain". To the parts of the brain he assigns "psychophysical" functions subordinate to the faculties of the soul; describing the pineal gland, for example, as "a psychophysical instrument of which the soul makes use for its needs as the telegraph clerk makes use of his electrical machine" (pp. 12-13). If man will not recognise "the laws of the psychical world" as here set forth, and recognise also "the action of Providence," then, in the author's opinion, he will soon be "*gorillisé, changé en bête, comme feu Nabuchodonosor*" (p. 401). After explaining his doctrines in Part i., M. Simonin goes on to describe two imaginary cities: the first, "Insaniapolis" or "the civilised world governed by the passions," as it is at present; the second, "Raisonville" or "society living under the empire of the laws of reason" demonstrated in the present work. In his Second Part, he attacks pretty impartially members of the Academy, Malthusians and Opportunists, as well as Materialists and German Pessimists.

Les Principes de la Découverte. Réponses à une Question de l'Académie des Sciences de Berlin. Par Th. Funck-Brentano, Professeur à l'École libre des Sciences politiques. Paris: Plon, Nourrit & Cie.; Leipzig: Duncker & Humblot; Luxembourg: F. Beffrit, 1885. Pp. vi., 264.

The Academy of Sciences of Berlin having offered a prize for the best critical exposition of the philosophical theories of causation that have influenced science during the last three centuries, with a view to the solution of the question as to the true meaning and validity of the law of causation, the author sent in the two answers printed in the present volume: the

first in French (pp. 1-168); the second and shorter (pp. 171-242) in German (here accompanied by a French translation). The thesis maintained in the first essay is that no statement of the law of causation by any modern philosopher has had or could have had the smallest influence on science, but that Aristotle's theory of causation is capable of perfectly explaining all the scientific discoveries of modern times. Aristotle, indeed, has had no direct influence on modern science; his statement of the law of causation is confused, and in the sixteenth century could only be misunderstood along with his other doctrines; but after three centuries of scientific discovery, it has at length become possible to see in Aristotle's principles the ground of all the progress that has been made. Aristotle's two principles, when disentangled from the confusion in which he leaves them, are (1) that the cause is that which is primitive in the 'kind' to be explained, (2) that induction gives the universal by the discovery of ideas between which there is no difference. "It was Galileo, by his great discovery of the laws of the fall of bodies, who gave the most remarkable example of the accuracy of the Aristotelian rules. Stones fall because bodies attract one another in the direct ratio of the masses and the inverse ratio of the squares of the distances, that is to say, stones *fall* because the parts of matter, the primitive of the kind in question, the cause according to Aristotle, *fall* towards one another in the direct ratio of the masses and the inverse ratio of the squares of the distances, ideas the same contained in the same manner in each of the parts of matter." In the second essay it is argued that all modern statements of the law of causation involve a vicious circle, but that Leibniz has supplied a basis for scientific discovery in the principle of sufficient reason, of which the law of causality is "an elementary and incomplete form". It has been the author's intention, in a paper read before the Academy of Moral and Political Sciences and printed at the end of the volume (pp. 245-264), to reconcile the answers given in the two essays by showing the agreement between "the law of causality interpreted according to the theory of the greatest philosopher of Greece and the principle of sufficient reason as it was formulated by the most illustrious thinker of Germany".

E. Spencer ed E. Morselli. *Scienza e Religione.* Milano-Torino: Fratelli Dumolard, 1884. Pp. 47.

The Director of the *Rivista di Filosofia scientifica* here reprints a (translated) article of Mr. Herbert Spencer's on "The Past and Future of Religion" (an extract from Part vi. of the *Principles of Sociology*) which has already appeared in his Review, along with a criticism of Mr. Spencer's general doctrine of the relations of science and religion, published in the same number. His first line of criticism is that, Mr. Spencer's point of view (in *First Principles*) being admitted, the ultimate conception of religion and of metaphysics, the conception of the unknowable, or of the ideal, cannot be identified with the ultimate conception of science, the conception of an unknown reality, an "infinite and eternal energy". The sentiment of philosophic "admiration" which, according to Mr. Spencer, is excited by this energy, has nothing in common with the religious sentiment of "veneration". The attitude of the human mind towards nature has gradually passed from the emotional to the intellectual, in other words, from the religious to the scientific phase; and the scientific and religious attitudes are inconsistent with one another. But further, Mr. Spencer's point of view is inconsistent with positive philosophy. The desire to frame some hypothesis of an "absolute" or "unknowable" is, it must be admitted, ineradicable from the human mind; but to the problem of satisfying this desire neither science nor positive philosophy has anything to say.

Die Italienische Philosophie des neunzehnten Jahrhunderts. Von Dr. Karl Werner. Dritter Band: Die Kritische Zersetzung und speculative Umbildung des Ontologismus. Wien: G. P. Faesy, 1885. Pp. xiv., 424.

Vols. i. and ii. of this work were noticed in Mind, Vol. x. 479. The new volume brings down the history of the Italian philosophy of the 19th century to the immediate present. Three more volumes are to follow, dealing respectively with contemporary philosophy as a whole (iv.), with the special philosophical disciplines so far as the thought of the Italian civilisation has specifically stamped itself on them (v.), and with the specifically ecclesiastical philosophy of Italy (vi.). The divisions of the present volume are (1) The critical decomposition of Ontologism (Giuseppe Ferrari, Ausonio Franchi, Criticism as transition to Christianity in the "teleological objectivism" of B. Mazzarella); (2) The pantheistic transformation of Ontologism in Italian Hegelianism (Vera, Spaventa, Mariano, d'Ercole, the reaction against Hegelianism in South and North Italy); (3) The return-movement of reconciliation of modern Ontologism to the speculative Mysticism and Scholasticism of the Middle Age (A. Conti).

Essays. Von Wilhelm Wundt. Leipzig: W. Engelmann, 1885. Pp. 386.

These Essays, some of which have already been printed, range over a wide field of psychological and philosophical study. The last three (xii.-xiv.) are applications of the author's ideas to slightly outlying subjects. Two of these ("Der Aberglaube in der Wissenschaft," "Der Spiritismus") are to be regarded as studies of aberrant psychical phenomena; the third ("Lessing und die kritische Methode") is intended to illustrate the method of exact criticism from the classical examples of Lessing's *Laokoon* and *Hamburgische Dramaturgie*. The thought that is expressed in the opening essay on "Philosophy and Science," and that runs through the book, is applied in this last essay to literary criticism. Lessing's critical method is here explained to be the development before the eyes of the reader of the exact course of the writer's own thought. Lessing always begins with concrete examples, from these gradually proceeds to general principles, and then ends with the further application of these general principles to details. The method of philosophy, the author maintains, ought to resemble this critical method rather than the method of abstract deduction. Philosophy should no longer try to hold itself independent of the special sciences as in antiquity; but, instead of attaching its speculations to the ideas of common consciousness, should set out from the critically tested results of special research. In antiquity the special sciences were really branches of philosophy, but this relation has become inverted: they are now rather its foundation. A movement towards unity following the detachment of science from philosophy, which was effected in the Alexandrian period, is already perceptible in special science itself. In "The Problems of Experimental Psychology" (v.), Prof. Wundt contends that, while its point of view has long since been passed, Cartesian dualism has become in modern times a kind of philosophic orthodoxy like the Aristotelianism of the Middle Age. Psychology must overcome this traditional doctrine by taking from the hands of mechanical science the weapon of exact experimental research. There are in this essay some interesting remarks on the relations of psychology to comparative mythology and the science of language. Prof. Wundt thinks that in the end more will be gained for psychology from the study of the myths preserved in the literatures of ancient civilised peoples than from study of the beliefs of modern

savages. On the other hand, the languages of uncivilised peoples, in the material offered by the laws of formation of words, perhaps promise more to the psychologist than the fixed languages of civilised races. The opposite, again, is the case with rules of syntax. It is pointed out as a favourable circumstance for the psychologist, that, just when the experimental methods of physiological psychology cease to be applicable, speech offers itself as an object which, through its independence of the observer and its modifications under changing conditions, is adapted for experimental investigation. Here we see what an extended sense is given to the "experimental method" that is advocated, in opposition to the method of "self-observation" (taken in the sense of attention to passing states of consciousness) which Prof. Wundt condemns as unscientific.

Logos. Ursprung und Wesen der Begriffe. Von Ludwig Noiré. Leipzig: W. Engelmann, 1885. Pp. xvi., 362.

In this new work the author reaffirms the doctrine that reason is coextensive with speech, and that the essential character of man is his power of thinking by means of general conceptions, which without words are impossible. The problem that the science of language offers to philosophy is, he says, to explain how the limited number of roots to which it brings back actual languages were formed originally as the signs of activities. This problem he attempts to answer by successively limiting it. First, primitive roots must denote *human* activities; secondly, these activities must be *social;* lastly, it is only social *creative* activities that have the capability of awakening thought and speech together. The general theory of language maintained by the author in opposition to the "imitation" and "interjection" theories, he describes preferably as the "Logos-theory". His solution of the problem of the origin of general conceptions, "the most important in the whole of philosophy," and the special subject of the present work, is a kind of Conceptualism. He holds that "the great advance of modern philosophy is the clear consciousness of the possession of general conceptions as particular beings in the thinking spirit". The ancients had not this clear consciousness, but spoke of "things" when they meant concepts. The founder of Conceptualism was Abelard; but in the Middle Ages, preoccupied with the inner life, it was impossible that due importance should be assigned to objects or to words. Locke, in tracing knowledge to experience, gave their part to objects; he also showed the dependence of thought on speech; but although he recognised that words are not the signs of things but of concepts ("abstract ideas"), he could not solve completely the problem of general conceptions, because he did not recognise the creative activity of thought. It was left for Kant, by a new departure in philosophy, to make possible the completion of the theories both of Locke and of Abelard.

Der psychologische Ursprung des Rechts. Von Professor Dr. J. Hoppe. Würzburg: A. Stuber, 1885. Pp. 103.

An examination of Dr. Stricker's *Physiologie des Rechts* (see Mind, Vol. x. 310), together with the statement of an alternative theory of the origin of law and the sense of "right". In the author's view the "consciousness of right" ought to be traced to "the noble feelings of the knowing being," not to primitive feelings of power. We must not seek for its origin in "contracts" and "juristic rights," themselves inexplicable without the possibility of that satisfaction of the "noble" or "spiritual" feelings in which the "right" consists. It is because these feelings do not find full expression in actual contracts and their observance that the State

has to interfere with its superior force. Penalties are consequently to be regarded as imposed in the interest of the noble feelings by the government in its quality of impartial spectator. Thus the sense of right, present from the first, gradually finds expression in law, an expression which, however, must always remain inadequate. The growth of law, therefore, can give no help towards the explanation of the origin of this sense.

Die Vollendung des Sokrates. Immanuel Kant's Grundlegung zur Reform der Sittenlehre dargestellt von Dr. HEINRICH ROMUNDT. Berlin: Nicolaische Verlags-Buchlandlung (R. Stricker), 1885. Pp. vi., 304.

This book bears the same relation to the practical philosophy of Kant as the author's *Grundlegung zur Reform der Philosophie* (see MIND, Vol. x. 626) to the theoretical. Like the previous work, it is intended, first of all, as a "simplified and extended" exposition of Kant's results. What Kant did in practical philosophy was to complete the Socratic doctrine of virtue and to give it a scientific character. In doing this he solved the problem of the highest good by preparing a secure passage from knowledge to faith. The author is dissatisfied with all other interpreters and successors of Kant, whom he divides into "creepers" (the Neo-Kantians) and "fliers" (Fichte, Schelling, Hegel). "But in truth neither the creepers nor the fliers are to be compared with Kant. For Kant wished that Reason in philosophy should neither fly nor creep, but, like man himself, walk upright between earth and heaven," the head raised to the regions of Faith, the feet set firmly on the solid ground of mathematical and physical science (p. 301).

Kantischer Kriticismus gegenüber unkritischem Dilettantismus. Von Dr. J. H. WITTE, Professor der Philosophie an der Universität Bonn. Bonn: Cohen, 1885. Pp. 66.

The author, while replying to a pamphlet of Dr. Stöhr, called forth by his review in the *Philosophische Monatshefte* of the latter's *Analyse der reinen Naturwissenschaft Kant's* (1884), takes occasion to set forth the general principles of the critical philosophy "in opposition to uncritical dilettantism," with a view to the interests of a wider circle of readers than those who have followed the controversy between himself and Dr. Stöhr. The reply to Dr. Stöhr extends to p. 30; in the first of two appended sections (viii., pp. 30-33), the author proposes a modification of Kant's deduction of the categories; in the second (ix., pp. 33-40) he gives a useful classified index of the more important Kantian literature of the last 25 years. The notes especially (pp. 41-66) have an interest independent of the particular controversy. In the last ("A word on Goethe's relation to Kant and Spinoza") it is contended that Kant's influence on Goethe was greater and Spinoza's less than is generally supposed.

Kant's Theorie der Erfahrung. Von HERMANN COHEN, Professor an der Universität Marburg. Zweite neubearbeitete Auflage. Berlin: Dümmler, 1885. Pp. xxiv., 616.

This second edition of Prof. Cohen's classical work is more than twice the size of the first edition (1871). The Introduction (pp. 1-79), which now replaces a short introductory chapter of 10 pp., contains a full account of Kant's relation to his predecessors from Plato onwards. The part of that chapter dealing with "the logical determination of space and time" is incorporated with c. i., which corresponds to c. ii. of the first edition. Chapter v. of the old edition ("Trendelenburg's view of the gap in the transcendental proof") is now omitted. Two or three changes are made in the titles of chapters; cc. iii. and iv. of the first edition are transposed;

c. vii. of the first edition is divided into two ; and two new chapters have been added (pp. 551-616), "Das Princip der formalen Zweckmässigkeit" (c. xv.) and "Das System des kritischen Idealismus" (c. xvi.). For the rest, while the general plan of the work is preserved, the modifications do not consist merely in additions ; those parts that are substantially identical with the chapters of the first edition have been thoroughly revised, in many cases rearranged and rewritten. That which has been from the first the author's view of Kant is thus restated : "Till the time of Kant there was metaphysic as art ; only with him begins metaphysic as science" (p. 576). The historical is not to be disconnected from the "systematic" view of Kant ; in the importance, other than historical, of Kant's work for every student of philosophy is the real justification of that minute study of his words that has been called "Kant-philology". The principal new developments in this edition are in two directions. In order to make more complete the exposition of that part of the theory of experience that has the closest connexion with the ethical theory, the doctrine of Ideas had to be "taken up into the doctrine of Experience". This has been done on the basis of the author's intermediate work, *Kant's Begründung der Ethik* (see MIND, Vol. iii. 153)—the ethical doctrine itself being of course excluded from the present exposition. For this rehabilitation of the part of the doctrine of Ideas that belongs to the theory of Experience, "the quintessence of the Synthetic Principles," the account of which the author considers to have been defective in the first edition, had to be sufficiently developed. Adequate treatment of the whole body of them became easier when the principle of Intensive Quantity was disclosed as central among them ; while also their elements—Space, Time, and the Categories—had new light thereby thrown upon them. Insight into the significance of the central principle, joined with consideration of the principle of Anticipations, determined the second direction in which new developments have been found necessary. It was seen that Kant's relations to mathematical and physical science, and in particular to Newton and Leibniz and their conception of infinitesimals, required more exact definition. The author's work, *Das Princip der Infinitesimal-Methode und seine Geschichte* (see MIND, Vol. ix. 159) was intended to supply the basis, so far as this conception is concerned, for the historical view now sketched in the Introduction. The new edition is dedicated "to the memory of Friedrich Albert Lange".

Die Lehre vom apriorischen Wissen in ihrer Bedeutung für die Entwicklung der Ethik und Erkenntnisstheorie in der Sokratisch-Platonischen Philosophie. Von Dr. phil. M. GUGGENHEIM. Berlin : Dümmler, 1885. Pp. 79.

The development of Plato's doctrine of *a priori* knowledge is here treated in relation to his ethics. In the putting of the Socratic question as to the nature of virtue in the *Meno*, the author sees the starting point of this whole development, which in the *Phædo* culminates in the distinction between the worlds of "being," "the true," "the good," on the one hand, and of "becoming," "the false," "the bad," on the other ; the former of these being the object of ἐπιστήμη, the latter of ψευδὴς δόξα. In the middle of the development comes the *Theætetus*, where the most important distinctions of the Platonic theory of knowledge are to be traced ; and here, accordingly, is for the author the centre of interest. In his last two sections (pp. 37-79) he discusses minutely the polemic against Protagoras ; showing how a positive doctrine of *a priori* knowledge was developed in opposition to Sensualism by means of this polemic, and how it was connected in the mind of Plato with "the ethical-æsthetic ideas" which were the beginning and the end of his philosophy.

Kant's Lehre von der Freiheit. Ein Beitrag zur Lösung des Problems der Willensfreiheit. Von Dr. Carl Gerhard. Heidelberg: G. Weiss, 1885. Pp. 84.

Kant's doctrine of freedom is expounded in Sections i.-iv.; Section v. is a criticism of the Kantian doctrine; in Section vi. (pp. 59-84) the author attempts a positive solution of the problem of freedom. He accepts from Kant the position that without free-will there can be no moral responsibility; and he refuses to acknowledge as true freedom the "empty fiction" of a "liberty of indifference". Freedom is the power man has of taking part in the formation of his own character. Human freedom is always relative and limited; for the direction is already given in many respects to character at birth by innate dispositions; but only so far as character is the work of freedom is a man responsible for his character. This freedom is quite compatible with the necessity of human actions. Freedom is not the opposite of necessity but of compulsion; the opposite of necessity is contingency (p. 76). "Particular actions are necessary," being the product of character and motives, "but the will, or rather the person willing, is free". The freedom of the person is manifested in action according to fixed maxims. This view of freedom the author regards as founded on Kant's doctrine, and as substantially identical with the essential part of it. The placing of the free act outside time, and the distinction of the intelligible and the empirical character, are indeed rejected. But, as regards the first point, it is contended that Kant also recognises the freedom that consists in the power of modifying character in the actual course of life; and, as regards the second point, the term "character," as used by the author, is really identical with Kant's "intelligible character". For the effect of the Kantian doctrine of the "intelligible character" is to attach the idea of freedom to that in man which is internal, instead of to its external or "empirical" manifestations.

Das Grundgesetz der Wissenschaft. Von Emanuel Jaesche, Dr. med. Heidelberg: G. Weiss, 1886. Pp. xx., 445.

The fundamental law of scientific knowledge, which it is the author's aim to set forth, is the requirement that each group of things should be completely determined as a "scientific whole" in relation to the unity of knowledge. The conception of knowledge as a unity, and of the determination of things in relation to it as the end of science, is to be kept in view in every kind of special research. This idea, stated in the "General Part" (pp. 3-36), the author tries to work out in the "Special Part" of his book (pp. 39-445), under the heads of "The corporeal World," "The animated World," "The conscious World," and "The self-conscious World".

Die Grenzen des Glaubens. Von Anton Ölzelt-Newin. Wien: C. Konegen, 1885. Pp. 43.

An examination of belief in the law of causation, free-will, &c., intended to show that in each case the only position intellectually justifiable is scepticism. Philosophy will "always remain the science of insoluble questions," and is "more an affair of need and of taste, more an art than a kind of knowledge". With philosophy must be classed religion. "In both, agreement in the most useful belief is possible, not through arguments, but, as in politics, when judgments, feelings, and needs of men have become alike." This agreement is obtained as the result of an authoritative appeal by teachers to the experience of life. The few who carry their intellectual conscientiousness so far as to be inaccessible to such appeals either remain uninfluenced by "those powers that build a world

out of the heart, or philosophy and religion are to them no longer anything but a private belief which becomes silent as soon as it comes into the light of day".

Die Illusion der Willensfreiheit. Ihre Ursachen und ihre Folgen. Von Dr. Paul Rée. Berlin: C. Duncker (C. Heymons), 1885. Pp. 54.

The author follows up his investigations of the origin of the moral feelings and of conscience (see Mind Vols. iv. 581 and x. 475) by a brief discussion of free-will, which he finds to be "not a moral truth, but a psychological error". The illusion of free-will has two expressions: the belief, as to the past, that we might have acted differently, and the belief, as to the future, that "we can do what we will"; both of which beliefs are true in the sense that there are always more physical possibilities than are actually realised, but false if taken, as they commonly are, in the sense that the will is ever free from the law of causation. The ground of the illusion is that we do not know, or know only imperfectly, the causes of the actions of ourselves and others. When the belief in free-will—in an uncaused beginning of action—is seen to be an illusion, actions and characters may still be to us "sympathetic" or "antipathetic," but—except for a remnant of habit—moral condemnation or praise of the actions of others, as well as remorse or self-approval for our own actions, must disappear. Kant's doctrine of noumenal freedom is founded on this incompatibility of the necessity of human actions with the imputation to them of guilt or merit; together with the fact that, even when men have explained actions, they still pass the same moral judgments on them as before. In criticism of Kant's argument, the author points out that to regard an action as completely determined, to contemplate it "sub specie necessitatis" is much more than "explanation" in the popular sense. The power of viewing actions entirely in their causal relations is reached only by a few; and even with those few there are remains of customary modes of thought. When the determinist point of view has been fully attained, the fact is no longer as Kant describes it; all imputation of guilt and merit disappears. To explain this imputation, then, there is no need of the assumption that actions are free; it is sufficient that they are held to be free.

Kritische Grundlegung des Transcendentalen Realismus. Eine Sichtung und Fortbildung der erkenntnisstheoretischen Principien Kants. Von Eduard von Hartmann. Dritte neu durchgesehene und vermehrte Auflage. Berlin: C. Duncker (C. Heymons), 1885. Pp. viii., 138.

This is the third edition of a work which, from the time of its first appearance (under another title) in 1871, has been the occasion of much controversy, and which, in its second form, was reviewed in Mind, Vol. i. 407. It forms the first volume of a new cheap edition of Hartmann's selected works.

Der empirische Pessimismus in seinem metaphysichen Zusammenhang im System von Eduard von Hartmann. Von Dr. Albert Weckesser. Bonn: C. Georgi, 1885. Pp. 74.

The author begins by distinguishing the "teleological pessimism" of Schopenhauer, which maintains the complete irrationality of the world, from the "eudæmonological pessimism" of Hartmann, which only maintains its irrationality with respect to the balance of pleasure and pain. The earlier pessimism is a necessary consequence of the metaphysics of the alogical Will, while the later and more moderate pessimism (to which, indeed, the term "pessimism," as Hartmann himself admits, is not strictly

applicable) is really in contradiction with the doctrine of the all-wise Unconscious, and has to be brought into Hartmann's system on empirical grounds. It is these empirical grounds that the author sets himself to investigate. While making many criticisms of detail on Hartmann's attempted proof that there is a balance of pain in the world, he directs the chief force of his attack against the application of the eudæmonistic measure to the worth of life. No strictly quantitative comparison of pleasures and pains such as Hartmann attempts is practicable; and even if it were possible to measure feelings in the way proposed, this would not decide the question whether existence is preferable to non-existence. The fundamental error of pessimism is that it regards happiness as the only rational end of the process of things. Not all forms of happiness indifferently need be in causal relation to the principle of things, but only that happiness which is in itself rational because it proceeds from "the moral will". For the production of the moral will a process of development is required, of which pain forms part. The feeling of happiness in which attainment of the rational end manifests itself is accompanied by indifference to the pleasures and pains that proceed from external causes. This was recognised by the ancient moralists of all schools, who placed happiness in an internal state. Hartmann himself makes such an internal state the ethical end of his pessimism. The pessimistic renunciation of the search for happiness in external objects, the identification of the ends of the individual with those of the Unconscious, results in a state of the moral agent by which he is raised above all particular pleasures and pains. The possibility of the attainment of this state makes the eudæmonistic measure inapplicable, and thus ethical pessimism is sufficient in itself to destroy the pessimistic conclusions.

Emil Du Bois-Reymond. Eine Kritik seiner Weltansicht. Von THEODOR WEBER. Gotha: F. A. Perthes, 1885. Pp. x., 264.

This criticism of what seems to the author the thorough-going and consequent materialism of Du Bois-Reymond's view of the world has for its ultimate aim to "Christianise science". Especially, he seeks to refute Du Bois-Reymond's "ever returning affirmation that where supernaturalism begins science ends". The great defect of Du Bois-Reymond's view is found to be "the arbitrary assumption of the eternity of primitive atoms". The true conception of nature is that of a "real principle," at first "indifferent," but capable of becoming "atomised". Nature, thus known as it really is, leads the way directly to God as its creator.

Die Lehre Herbarts von der menschlichen Seele, mit Herbarts eigenen Worten zusammengestellt von HEINRICH FREE. Bernburg: Bacmeister, 1885. Pp. viii., 74.

The object of this book is to give such a condensed exposition of Herbart's psychological conceptions as may prepare for the understanding of his pedagogics. The text is entirely in Herbart's own words; only the selection of extracts and the arrangement of the paragraphs being the author's.

Die Lehre vom Wesen des Gewissens in der Scholastik des dreizehnten Jahrhunderts. Ein Beitrag zur Geschichte der Ethik. Erster Theil: Die Franciscanerschule. Von Dr. HUB. THEOPHIL SIMAR, Professor der Katholischen Theologie an der Universität zu Bonn. Freiburg i. B.: Herder, 1885. Pp. 32.

The author proposes in the present work to give an account of the Scholastic doctrine of the conscience that shall do justice to the minor

figures of the Scholastic movement, neglected in the ordinary histories. For different reasons, he maintains in discussing the origins of Scholasticism, there could be no philosophical doctrine of the conscience either in antiquity or in the Patristic period; and it was in the 13th century that the earliest attempts were made to explain its nature. A part of the Scholastics seek the foundation of conscience in the powers of conation (in modern terminology, "the feelings") and in knowledge; others place it exclusively in the reason. The first conception is that of the Franciscans, Bonaventura and Alexander of Hales; the second that of the Dominicans, Albert the Great and Thomas Aquinas. All the 13th century investigations of the conscience were started by the Aristotelian psychology, especially by the distinction of cognitive and active powers. Further, the form and content of these investigations attach themselves to a gloss taken from the commentary of St. Jerome on Ezekiel, in which conscience is spoken of under the double name of *συντήρησις* and *conscientia*. Alexander of Hales was the first to make use of this gloss for the construction of a theory of conscience; but Bonaventura was the first to distinguish clearly the two terms by giving the name *synteresis* (or, as it was commonly misspelt, *synderesis*) to the disposition of the will, *conscientia* to the intellective side of conscience. In the Second Part of his work, the author will proceed to the doctrine of conscience as developed by the Dominican school.

Die Erklärung des Gedankenlesens nebst Beschreibung eines neuen Verfahrens zum Nachweise unwillkürlicher Bewegungen. Von W. Preyer, Professor der Physiologie an der Universität Jena. Mit 26 Original-Holzschnitten im Text. Leipzig: Th. Grieben (L. Fernau), 1886. Pp. 70.

In the first of these papers the author describes how Dr. Beard, Dr. Carpenter and himself have all arrived by different ways at the explanation of "thought-reading" from indications given to the thought-reader by unconscious muscular movements. This explanation, suggested to Carpenter by experiments on hypnotism and to Beard by his knowledge of the results of Fritsch and Hitzig, was suggested to the author by his researches on the involuntary impulsive movements of unborn and newly-born animals and of very young children. The second paper contains an account of the construction and use of the apparatus he has devised for registering unconscious muscular movements of all kinds. The descriptions given in the third paper show with how much rapidity and accuracy it is possible for one practised in reading the indications given by these movements to write or draw any numbers, letters, figures, &c., that are intently thought of by the subject of the experiment. The fourth paper is an elaborate critical examination of M. Richet's late attempt (in the *Revue Philosophique*, ix. 12) to prove a direct transmission of thought from brain to brain. Dr. Preyer's conclusion is that out of the whole series of experiments brought in evidence by M. Richet, nothing remains that can lend the least support to the entirely superfluous assumption of a transmission of thought without verbal or other physical signs.

Kleine Schriften. Von Hermann Lotze. Bd. i. Leipzig: S. Hirzel, 1885. Pp. xviii., 397.

Dr. D. Peipers here begins a collective reprint of Lotze's minor writings —to exclude only the *Poems* of 1840 and a Latin translation of the *Antigone* in 1857—as they have been made out and catalogued, with perfect care and devotion, by Prof. E. Rehnisch in the appendix to the *Grundzüge der Æsthetik* (see Mind, Vol. ix. 471). The collection will fill three volumes, the third containing at the end a small amount of pre-

viously unprinted matter. The present volume gives 17 pieces down to 1846,—in chronological order, for the sake of the light thereby thrown on the writer's mental development. Beginning with Lotze's Latin dissertation for his medical degree in 1838, it contains, besides one or two medical reviews, the famous article on "Life and Vital Force" in *Wagner's Handw. der Physiologie*, by which he first made his mark, followed by another article on "Instinct"; the two here occupying pp. 139-220, 221-50, respectively. The other pieces (except the mathematical dissertation of 1840, "De summis continuorum") are of general philosophical interest. Most of them are reviews of books (about Kant, Descartes, &c.), but three have a more independent character: (iv.) "Remarks on the Notion of Space," in a letter to Ch. H. Weisse (1841), pp. 86-108; (v.) "Herbart's Ontology" (1843), pp. 109-38; (xi.) "On the Notion of Beauty" (1845), pp. 291-341. The editing has been performed with the most scrupulous conscientiousness.

System der Christlichen Sittenlehre. Von D. J. A. Dorner. Herausgegeben von D. A. Dorner. Berlin: W. Herz, 1885. Pp. xi., 560.

This posthumous work of the distinguished theologian Dorner contains his ethical doctrine. His aim is to find a point of view from which the unity of Christian and philosophical ethics may be seen, at least as a limit to which both equally tend. "The way to this union is long and the reaching of this end nothing less than the whole history of the world," and we are as yet only in the middle of the process; although, even now, a philosophical ethics may become Christian without ceasing to be rational, and a theological ethics need not give up the claim to a severely scientific character. There must therefore be no forcing of union on the two systems from outside. It is not only unavoidable but desirable that attempts should still be made to construct a philosophical doctrine of morality independently of all reference to Christian morality. Yet in the final union, that is to be sought and will at length be attained, between natural and Christian morality, the theological element will not have disappeared from Christianity. This element, indeed, is an essential part of Christian ethics. For of the three stages of moral progress, the stages of "law" or "duty," of "virtue" or law which has embodied itself in habit, and of morality as "highest good" or as the "absolute good" which is identical with God, the last stage, which is the stage of "love" or of "the Gospel," sums up in itself the other two,—the first as well as the second,—for in it the essentially Christian idea of love is united with the philosophical idea of moral law. Now this process is inconceivable apart from the historical and theological element in Christianity; for love cannot be felt towards a law, but only towards a person. The idea of the God-man as the highest manifestation of moral good in the world is thus a necessary idea in ethics. Morality is the only thing in the world that is absolutely good; but there are also goods that are not ethical. In the ideal Christian organisation of the world, or "Kingdom of God," which is the end of the whole movement of things, those goods, such as knowledge, which are not of absolute value would have a place assigned to them, not indeed on a level with morality, but distinct from it. In the ideal Christian state the pursuit of knowledge, for example, and the investigation of all truth on purely natural grounds, would be left perfectly free.

Allgemeine Ethik. Von Dr. H. Steinthal, a. o. Prof. für allgemeine Sprachwissenschaft, &c. Berlin: G. Reimer, 1885. Pp. xx., 458.

This treatise, upon a subject to which the author, more than ten years ago, felt himself irresistibly drawn (but without abandoning the psychologico-linguistic studies that have brought him his fame), has been looked for

with interest for some time back. It falls, after an Introduction (pp. 1-92), into four parts: (1) The doctrine of Ethical Ideas, (2) Exposition of the Ideas, or the Forms of Moral Life, (3) The Psychological Mechanism of Ethical Action, (4) The Ethical View of the World. Critical Notice will follow.

Allgemeine Ethik. Mit Bezugnahme auf die realen Lebensverhältnisse pragmatisch bearbeitet von JOSEPH W. NAHLOWSKY. 2te verbesserte u. vermehrte Auflage. Leipzig: Veit, 1885. Pp. xxiv., 366.

This book, by the author of the better-known *Gefühlsleben* (see MIND, Vol. x. 152), appeared originally in 1870. The present edition will receive notice at length later on. Meanwhile, we observe with regret, from a supplementary note by the publisher, that the author died at Graz last January, before the edition saw the light (though he had already written the new preface for it). Nahlowsky was in his 73rd year, and appears to have been long a sufferer; having retired in 1878, through ill-health, from the professorship at Graz which he had held since 1862. A native of Prague, he had originally been in training for the priesthood, but turned to philosophy, and occupied a succession of posts in different Austrian universities from about the year 1845.

RECEIVED also :—

T. V. Tymms, *The Mystery of God*, London, Eliot Stock, pp. xii., 354.
M. C. Irvine, *The Symmetry and Solidarity of Truth*, i., London, Williams & Norgate, pp. xvii., 117.
D. H. Tuke, *The Insane in the United States and Canada*, London, H. K. Lewis, pp. 260.
E. Dean, *Mind and Brain*, London, Alexander & Shepheard, pp. 99.
S. E. Titcomb, *Mind-Cure on a Material Basis*, Boston (U. S.), Cupples, Upham & Co., pp. 288.
A. Zocco-Rosa, *Principii d'una Preistoria del Diritto*, Milano, Grieb, pp. 95.
P. Siciliani, *La nuova Biologia*, Milano, Fratelli Dumolard, pp. xxvi., 408.
G. Levi, *La Dottrina dello Stato di G. G. F. Hegel e le altre Dottrine intorno allo Stesso Argomento*, Roma, E. Loescher (vol. i.), pp. 257; (vol. ii.), pp. 434.
G. P. Weygoldt, *Die Platonische Philosophie nach ihrem Wesen und ihren Schicksalen für Höhergebildete aller Stände dargestellt*, Leipzig, O. Schulze, pp. 256.
R. Eucken, *Beiträge zur Geschichte der neuern Philosophie vornehmlich der deutschen*, Heidelberg, G. Weiss, pp. iii., 184.
H. Spitta, *Einleitung in die Psychologie als Wissenschaft*, Freiburg i. B., J. C. B. Mohr (P. Siebeck), pp. viii., 154.
J. Volkelt, *Erfahrung und Denken*, Hamburg u. Leipzig, L. Voss, pp. xvi., 556.
L. Strümpell, *Die Einleitung in die Philosophie vom Standpunkte der Geschichte der Philosophie*, Leipzig, G. Böhme, pp. 484.
E. Kaler, *Die Ethik des Utilitarismus*, Hamburg u. Leipzig, L. Voss, pp. 78.
H. Schuchardt, *Ueber die Lautgesetze*, Berlin, R. Oppenheim, pp. 39.
H. Schaaffhausen, *Anthropologische Studien*, Bonn, A. Marcus, pp. ix., 677.

Notice of some of these (come to hand too late) is deferred.

IX.—NOTES AND CORRESPONDENCE.

DR. MARTINEAU'S DEFENCE OF "TYPES OF ETHICAL THEORY".

In a review of Dr. Martineau's *Types of Ethical Theory* in MIND, Vol. x. 425, while endeavouring to do justice to his positive merits as an expositor of the history of philosophy, I found it my duty to draw attention to certain errors and oversights—sometimes of a rather fundamental kind—into which he had fallen. Dr. Martineau made an elaborate reply to my criticism in the last Number of MIND; and the reader—if he has had any experience of philosophical controversy—will have seen without surprise that Dr. Martineau declines to admit that he is in the wrong in any single point. The experienced reader will be no more surprised to learn that a study of Dr. Martineau's defence has led me to form, on the whole, a more unfavourable judgment of his historical work than I expressed in my review; since I find that his misapprehensions of the thinkers whom he has undertaken to expound are more profound than I originally supposed. I scarcely think that further controversy, under these circumstances, is likely to be profitable; at the same time, having undertaken the task of criticising Dr. Martineau's book, I feel bound to state—and therefore to justify—the unfavourable impression which his reply has made upon me. In this difficulty, my best course seems to be to take one of Dr. Martineau's studies, and, confining myself to the points to which my original criticism was directed—which were only a selection of the erroneous or misleading statements that I might have noticed—to examine Dr. Martineau's reply on these points. I shall then ask the reader "crimine ab uno discere omnia".

I will take the study of Plato, with which the book opens. Here the first statement of Dr. Martineau's which I characterised as erroneous, was the following (p. 105): "Equally repugnant to all just valuation of character is Plato's preference of voluntary pravity to involuntary—a preference openly defended by him against the protest of natural feeling". In the note to this passage, the only reference given was to the *Hippias Minor*, 375 D. It was evident, therefore, that Dr. Martineau relied on this passage as a justification of his statement. Now, in the first place, I consider that no one writing about Plato ought to refer to the *Hippias Minor* as an authority for a serious criticism on Plato's doctrines, without at least letting his readers know that the genuineness of this dialogue has been disputed by several eminent commentators, and is still treated as doubtful by critics, like Mr. Jowett, who may be described as conservative in their general tendencies. I did not call attention to this omission in my review, as I myself regard the dialogue as genuine; still, the omission is noteworthy as illustrating the defects of Dr. Martineau's critical work.

But his misinterpretation of the drift of the dialogue is more serious. I certainly think that any reader who is familiar with the dialectical method and manner of Socrates ought to see that the argument to which Dr. Martineau refers is not intended to lead up to a positive conclusion seriously held. The very words of the concluding passage of the dialogue show this plainly:—

"(Socr.) 'Then, Hippias, he who voluntarily errs and does disgraceful and unjust things, *if there be such a man*, can be no other than the good man.'

"(Hipp.) 'There I am unable to agree with you, Socrates.'

"(Socr.) 'Nor can I agree with myself, Hippias; but yet this seems to be a necessary inference at the present moment from our argument.'"

Even if we did not know from other sources the fundamental importance

attached by Socrates to the proposition 'that no one is voluntarily bad,' the words I have italicised would suggest this solution of the paradox; but as we do know this, there does not seem to me the shadow of an excuse for gravely charging Plato with a "preference of voluntary pravity to involuntary" on the ground of this dialogue; especially as he adopts the above-mentioned proposition as the basis of his main argument in the *Gorgias*—a dialogue regarded as clearly later than the *Hippias Minor* by all who admit the genuineness of the latter.

But Dr. Martineau replies that his charge is justified by a passage "from the *latest* stage of Plato's development; being found in the *Republic*, 535 E". I must observe, in passing, that the unqualified emphasis he lays on the word "latest" suggests an imperfect acquaintance with recent Platonic criticism; since the current of critical opinion has for some years been setting steadily against the old view that the *Republic* represents the "*latest*" stage of Plato's development. But I will not lay stress on this now; since whether the passage in the *Republic* is late or early it does not afford the least support to Dr. Martineau's charge; in taking it to give such support he has committed a double *ignoratio elenchi*. For (1) the passage he quotes contains nothing whatever about *preference* of voluntary falsehood to involuntary; it simply says that 'it is a crippled soul' which hates the former and does not also hate the latter. And (2) the most express preference of voluntary *deception* to involuntary would not in the least prove a preference of voluntary *pravity;* since there is no reason why the deception should be supposed to be known to be bad by the deceiver and chosen in spite of this knowledge. Indeed I need hardly remind readers of the *Republic* that Plato regards deception under certain circumstances as good and useful; it is, he says, a useful medicine, though too dangerous for private persons to meddle with; it should be left to the rulers of the State. There is no affinity whatever between this position, and that which Dr. Martineau mistakenly supposes to have been seriously maintained in the *Hippias Minor*.

But the failure of Dr. Martineau to understand the full importance, in Plato's ethical view, of the Socratic identification of virtue with knowledge, vice with ignorance, is still more startlingly shown in his reply to me on another point. I criticised in my review his extraordinary suggestion that Plato, when treating of the cardinal virtues in the *Republic*, may have "felt that Intellect as such could not after all be put upon the seat of guidance, but must itself be made available in the career of life, by a power over it, resolved to lash it to its work," which we may identify with "Conscience or the proper Moral Faculty". I urged that it was opposed to the very essence of Plato's philosophy to conceive of any natural lord or ruler of the soul other than the philosophic reason. Dr. Martineau answers that his interpretation was not intended to depose the philosophic reason; "it only claims for that Reason, in Plato's later conception, a function, missing in the earlier, other than that of simple Intelligence, and approximating to that which we assign to Conscience. There would be no occasion to dispossess the word νοῦς of its supremacy; provided it were invested with the meaning not only of 'knowing the true,' but of 'ordering the right'."

This explanation is, in my opinion, even more extraordinary than the original suggestion. Is there not overwhelming proof that at no period of Plato's development could he conceive of the Philosophic Reason as knowing the good without ordering its realisation, so far as possible, in human life? And, even admitting for the sake of argument that this might be true of Plato at some time in his development, is it not manifestly inverting the fundamental order of evolution of his thought to identify that time with his *earlier* and therefore more Socratic period? And

ought not the identification of Philosophy with Virtue, which is an essential point of the main argument of the *Republic*, to have shown Dr. Martineau that this distinction of Conscience, as a separate power set over Intellect as a master to "lash it to its work," was at any rate absolutely impossible to Plato at the time that this dialogue was composed? It seems to me that all these questions must be answered unhesitatingly in the affirmative.

So far my criticism of Dr. Martineau has related to points in Plato's doctrine as to which I cannot profess to find any difficulty or ground for hesitation. The case is different when we come to Plato's views on the question of Free-will. Here I should characterise Dr. Martineau's statement as one-sided and inadequate rather than simply erroneous; he does not see that Plato's fundamental psychological conceptions preclude him from giving to the modern question of Free-will the clear answer which Dr. Martineau tries to elicit from him. To put it briefly, we may say that, while Plato is anxious to resist the Determinist excuse for vice, his psychology inevitably precludes him from being really Libertarian; he has every wish to fix on the individual the full responsibility for his bad conduct, and he does this as impressively as he can in the *Republic* by the mythical representation of an uncontrolled choice among human lots by the disembodied soul, but when we press him for an account of volition, the freedom vanishes. The wrongness of any volition is completely explained by given conditions of the mind willing, whether these conditions are conceived as purely intellectual defects or as defects in the relations established between rational and non-rational impulses. To say that he "admits no necessity but as the consequence or after-stage of freedom, and puts the Will before the Must, fetching the determinate out of the indeterminate as its *prior*" is to make him talk modern Libertarianism in a quite unwarrantable way. Even in the fable of the *Republic* the fateful choice of the disembodied soul is not represented as "fetched out of the indeterminate"; it is expressly and emphatically referred to the conditions—"want of capacity and skill" or "folly and greediness"—which the soul brings with it to the choice.

Finally, in my review, I demurred to Dr. Martineau's characterisation of Plato's ethics as "Unpsychological"; pointing out that this could not properly be said of the ethical doctrine expounded in the *Republic*. Dr. Martineau, in his reply, admits that this is true "if by his ethical doctrine is meant his criticism of current notions, his dialectic sifting of proverbial maxims, his analysis of the Hellenic State and his remedial rules for escaping its ills"; but says that this is not an "ethical theory" but an "ethical art". Certainly; but I did *not* mean this kind of thing when I spoke of Plato's "ethical doctrine"; I meant primarily his theory of Virtue expounded in book iv., and secondly the analysis, classification, and comparison of Pleasures given in book iv. As Dr. Martineau himself in speaking of the former says that it is "made to rest on a psychological base," I am surprised that he has misunderstood me. He says that what he means by a psychological theory of ethics is not "constituted by processes of logical search and psychological illustration". But it is not a question of psychological *illustration;* the analysis by which Plato distinguishes three active principles in the individual soul—Reason, Appetite and *τὸ θυμοειδές*—is the basis on which his whole theory of Virtue is constructed. To call such a theory "Unpsychological" seems to me a misleading departure from the common usage of language.

I trust the reader will now consider that, by examining this sample of Dr. Martineau's answers to my criticisms, I have sufficiently justified the unfavourable opinion of the historical portion of his reply which I expressed at the outset of this paper. At the same time, I think that his study of

Plato is interesting and instructive, in spite of its errors: and I think the same of most other parts of his historical work. The remarks that I have to offer on his explanation and defence of his own ethical theories, I reserve for a more convenient occasion. H. SIDGWICK.

By permission of the author I have read the foregoing rejoinder, and through the courtesy of the Editor append a few brief notes.

My allegation that Plato "preferred voluntary pravity to involuntary" is declared to be unfounded, (1) because made "on the strength of a passage in the *Hippias Minor*,"—a disputed dialogue; and (2) because at variance with the Socratic principle, "No one is voluntarily bad". The reader is led to suppose that I rely exclusively on the *Hippias Minor*, and that I take no account of the Socratic principle.

There are two passages of the *Types of Ethical Theory* which ascribe to Plato the controverted "preference". The earlier of these (i. 70) states it *in extenso*, lays it side by side with the Socratic maxim, and suggests an interpretation which enabled them to coexist; giving as authority, along with the reference to the *Hippias Minor*, one to the *Republic*, which repeats the same doctrine. The later passage (i. 105), occurring in an ethical recapitulation, merely recalls the former sufficiently to render a comment intelligible, and therefore does not repeat the double reference. Prof. Sidgwick, quoting and criticising only the latter, blames me for not noticing the doubts about the *Hippias Minor*. In my judgment, they would in themselves have had little relevance; and, in presence of the passage from the *Republic*, none at all. Doctrines found in common in one of the slightest and in the greatest of the Platonic writings, appear to me fairly attributable to the Master's philosophy. Prof. Jowett says: "The 16th debatable portion" (of the dialogues) "scarcely in any degree affects our judgment of Plato, either as a thinker or a writer; and though suggesting some interesting questions to the scholar and critic, is of little importance to the general reader" (Translation of Plato, 2nd Edition, vol. ii., p. 140).

The passage in the *Republic* is said, however, to give me no support, (1) because its admission is not of voluntary *pravity*, but of voluntary *lies;* (2) because it separates these from involuntary by no degrees of comparison (implying "preference"), but demands equal condemnation for both. It stands thus: "With regard to truth, shall we not pronounce it but a crippled soul that hates and cannot bear voluntary falsehood, and is angry beyond measure with itself and others for telling lies, yet lives on easy terms with involuntary falsehood and feels no annoyance at being caught in ignorance, but is content to wallow in it like a swinish brute?" (1) In proof that Plato did not think of these "lies" as having any "*pravity*," appeal is made to his defence of occasional resort to deception. Such defence is also found in the *Methods of Ethics* (iii., ch. 7, § 3, p. 319): what would the author say, if, after describing the liar's compunction at his lies in such terms as Plato's, he were treated as perhaps seeing nothing bad in them? Deception, spoken of in general terms, does not lose its *pravity* for one who finds room for a rare exception. (2) If this passage does not compare the voluntary fault with the involuntary, and denounce the folly of taking the former for the worse, I know not what words can do so: put the two *hates* on an equality, and the sense of the proposition is lost.

In referring this passage to the "latest stage of Plato's *development*," I did not use the phrase of the final stadium of his *literary activity*, or forget the group of dialogues between the *Republic* and the *Laws*. I meant to mark merely the complete escape of his thought from its Socratic base into the structure created by his own genius. The subsequent modifications bear more the character of critical corrections and appropriations from contemporary influences than of features in his personal development.

I cannot then explain away the evidence of Plato's preference of voluntary to involuntary sins. Does not such preference, however, conflict with his principle, 'No man is voluntarily bad'? Certainly it does: but this does not cancel the possibility or the fact of their coexistence in his mind under favour of some inexactitude of phrase. The key to the riddle is found in the ambiguous range of the term ἑκούσιον. Do I *will* whatever I *intend?* or only what I *wish?* If the former, then in all the foreseen evils of my wrong-doing I am voluntarily bad. If the latter, my aim is at some good, seized at the price of undesired ills; I will an act that is bad, but it is not the badness that I will. Did I see it as it really is, I should recoil from it with hate. While both these usages are found in Plato, they finally disengaged themselves from one another; and in the *Laws* he will no longer allow the epithet "voluntary" to be applied to "wrongs," but only to the "*hurts*" involved in them; and carries out to its consequences the doctrine that the "bad are always involuntarily bad" (ix. 860 D.—863).

Since I used the word *pravity* merely as a collective term for *depraved acts*, I had better have chosen a plural common noun than a singular abstract, which unintentionally seemed to jostle the Socratic maxim.

In ascribing a modified meaning to the tripartite division of the soul on passing from the *Phædrus* to the *Republic*, I am not conscious of going beyond the limits of Prof. L. Campbell's remark that there is "ground for caution in comparing the two steeds of the *Phædrus* with the Spirit and Desire of the *Republic* and *Timæus*. The *Phædrus*, in common with these dialogues, asserts the existence of higher and lower impulses in human nature; but there is no sufficient ground for supposing that, when Plato wrote the *Phædrus*, he would have defined them precisely as they are defined in the *Republic*." (See *Encycl. Brit.* Art., 'Plato,' 202 b.) And as, among his deviations from the Socratic ethics, he came to admit a virtue of *habit* as well as of *insight*, and invoked a power to hold each of the three parts of the soul to its business, without meddling with the rest, it seems simple enough to invest the Reason, liable as it was to be taken as *Speculative*, with a function of new aspect that makes it also *Practical*.

On the remaining paragraphs I have nothing fresh to say; and I take leave of my respected reviewer with thanks for his criticism,—thanks less bright and pleased, no doubt, but not less true, for its severity.

James Martineau.

PROF. TH. LIPPS'S "GRUNDTATSACHEN DES SEELENLEBENS".

Prof. Th. Lipps of Bonn has written at considerable length to complain that his reviewer in Mind, Vol. x. 605 failed to give any adequate notion of the scope of his *Grundtatsachen des Seelenlebens*. There is ground for the complaint, though the fault lies less with the reviewer than with the too narrow limits to which, for so extensive a work (709 large-sized pp.), he was confined. What reparation is possible is now made to Prof. Lipps by subjoining the larger (expository) part of his communication,—which will have the more interest for readers of this Journal as coming from one who, by his own allowance, has worked so much upon the traditional lines of English psychology:—

"The work seeks to give the outlines of a pure Psychology, that is to say, of a psychology which, without metaphysical presuppositions as to the "essence" of the soul and without physiological hypotheses, proceeds only upon that which results immediately from contemplation of the processes of consciousness, or can be concluded from them by means of the law of causality. Psychology, in such case, must have recourse to unconscious mental processes, and this universally. But of these also the science asserts only what it may and must assert on the ground of conscious

processes. In particular the question is entirely left aside, what physiological significance the unconscious processes may have. The aim is to make the "fundamental facts of the mental life," that is to say, the mental and spiritual phenomena which compose or must compose the content of Psychology in the narrower sense,—and further of the Theory of Knowledge, Æsthetics and Ethics,—build themselves up, so to speak, out of the ultimate elements and by means of the most general laws. The ultimate elements are the simple Sensations, or the component parts of them, so far as these admit of being psychologically discovered; the laws are the laws of Association on the ground of Similarity and Simultaneous Concurrence in the mind, and the law of the "Narrowness of Consciousness". To these add the law of "Fusion" which results from them on certain presuppositions. On the other hand, all forces and powers are rejected that claim to be anything else than another expression for the joint action of these elements and laws,—also Attention and Will so far as appearing to be active factors of a special kind. The whole work is a thorough-going Association-psychology; it therefore shows itself everywhere dominated by the contrast of the two kinds of Association. The mental life is represented as a result of the mechanism of Association, but without prejudice to its dignity, and in particular without impeaching the freedom of the will, or rather of the personality so far as it has moral significance.

"The first chapters of the book prepare the ground. They mark the place and problem of (pure) psychology, criticise hurtful prejudices and discuss the most general facts. With reference to these chapters, the reviewer is right when he says the interest of the work is "more in the treatment of general questions than in the details". On the other hand, the very contrary is true of the following chapters, left entirely unnoticed by the reviewer, and comprising over 500 pages. They certainly have in view, like every scientific investigation, to gain knowledge as general as possible; but only on the ground of analysis of the manifold facts, going into the minutest particulars. Still less grounded is the affirmation that the work is one "where the author's aim is chiefly to set forth what is already known". Of the disclosure of entirely new, till now entirely unheard-of, mental processes, naturally there can be little to say. On the other hand, the *theory* is in important respects an entirely new one; and where this is not the case, at least it modifies existing theories and places them in new points of view. Finally, I even raise the claim to have been the first to put, and consequently the first to seek an answer to, many important questions. The views of others are, on principle, only brought in so far as the criticism of them appeared serviceable to my own constructive aims; so that the reader would find himself misled, who, trusting to my reviewer, expected to learn from the book "what general conceptions have become most prominent in contemporary German psychology, and what kind of modifications in them are proposed by a German critic". Here the accentuation of *German* psychology is again misleading, since with regard to my general conceptions I believe myself to owe much to English psychology.

"Of the first chapters of the book I will say no more. Chapters ix.-xv. (pp. 177-362) investigate the flow of representations as it develops itself under the influence of the relations (Verhältnisse) of similarity (agreement, affinity) and contrast; cc. xvi.-xxii. (pp. 362-451), the flow of representations as it shapes itself under the influence of "Beziehungen," that is to say, of the associations resting on experience. In these sections many questions of detail had to be discussed, which elsewhere are not commonly raised. How on the ground of "Verhältnisse" and "Beziehungen" representations support or impede one another, how connected series of representations separate from one another and become firmer, how tracks

are formed upon which representation proceeds more and more easily, how the stream of representations breaks off and stops its course, how representations or complexes of such are raised out of the stream and made into objects of special interest, while others are pressed back and robbed of interest,—all these questions, not be be solved by mere "general conceptions," are considered at length. The investigation is based both on immediate observation and on psychical measurements so far as yet carried out; these being to some extent discussed in detail. On the other hand, the discussion opens out everywhere into fundamental questions of Æsthetics and Theory of Knowledge.

"Besides what has just been indicated, I draw attention in particular to the following additional points. In c. ix., for example, there is a general theory of pleasure and pain; e. xi. gives a theory of harmony and discord which modifies and re-establishes an old theory unjustly banished by Helmholtz and Wundt; e. xii. treats of physiological and—what is quite different from this—psychological "contrast". This last subject is treated further in c. xiv., which, in immediate connexion with the phenomena of psychological and æsthetic fatigue, derives the various psychological and æsthetic effects of contrast from the mechanism of representation.

"The first chapter of the second of the two sections mentioned above contains among other matter an explanation of our æsthetic interest in the human form, landscape, &c. It is shown that the interest rests on associations of experience which are pointed out in detail. Chapter xvii. discusses apperception and the classes of judgments, in particular the judgments of comparison and of "Beziehung". The latter kind of judgment results of itself from the reciprocal action of combinations of representations as determined by experienee. Just in the same way, according to c. xviii., from the reciprocal action of judgments result in succession the conceptsor "categories" of condition, ground, eause and substratum. In the series of these categories every successive category marks only a special case of the foregoing. But they all have modes of association of representations for their peculiar content. The law also that every change requires its cause is derived from the law of Association. There follows in c. xix. the contrast of things and personality. The unity of personality or of the *Ego*, as also of the foreign personality standing over against it, originates for our consciousness in experience. The section concludes at e. xx. with a discussion of the mechanism of thinking, so far as it has general content. Induction and deduction, the origin and nature of the concept, and language as the vehicle of general thinking, find here their place.

"The whole fifth section is devoted to Space and Time, in particular giving (at a length of 116 pages) a new and complete theory of the origin of the intuition of space, which again I may best characterise as a thorough-going Association-theory. Or is this theory also "already known" to my reviewer? A German critic calls it "interesting and original". I hope it is also eorrect. At least I know till now no other that can stand beside it. Other leading divisions concern tactile space, the origin of the third dimension, the union of the spatial images of the different senses, illusions of ocular measurement (including one not previously observed).

"Lastly, the sixth section deals with Conation, as an activity of representation struggling against hindrances. The investigation opens out into the fundamental conceptions of Ethics and also of Æsthetics. For the personality, as it is the object of moral willing and judging, is also the true content of all beauty; as, again, the negation of the personality is the essence of evil and ugliness. The different kinds of eonation—deliberation and expectation, desire and wish, will and sense of obligation—begin the section. Chaps. xxviii. and xxix. go more into detail and discourse of the many kinds of content or end of conation, in particular of the highest end, the person-

ality of self and others, of the different possibilities of origination, enhancement, lowering, suppression of conation, of "disillusionings" and the comic, lastly of the mental movement proceeding from the representation of that which is striven for and terminating in action. Here again psychical measurements had to be considered and pointed out in detail. But the whole falls, just like the investigations of the "flow of representations," under the conception of the mechanics of representation resting on Association. The same is true also of the contents of the last chapter, which has to do—I admit, only in very broad outlines,—with the good and the bad, the beautiful and the ugly, with love and hatred, the tragic and the comic, that is to say, with the fundamental moral and æsthetic conceptions. That Ethics grows out of Psychology and also how it grows,—to show this was the principal end of this chapter.

"The foregoing is not intended to give the contents of the book, but only to point out that the book has contents. Let me be pardoned for having spoken so self-consciously; I was compelled to do so. I am not anxious that my views should be accepted. But I do claim that in the book I have willed to produce something of my own, and that I have done it to some purpose."

FIRST NOTIONS OF THE UNSEEN IN A CHILD.

The following notes may interest some readers of MIND. My little son has never been taught anything whatever of the supernatural, so that what notions concerning unseen powers he has or has had are of perfectly spontaneous growth. The first positive sign he gave me of having any ideas of this sort occurred last November when he was one year and ten months old. He had never in the least objected to being put to bed in the dark, but I suppose it at this time had begun to have certain terrors for him, for he suddenly one night soon after he had been put to bed set up a most dismal howl. I went at once to him and asked him what he was crying about. He was comforted at once on hearing my voice, and answered promptly "'bout Cocky". I assured him that "Cocky" was far away at Bradfield, alluding to a country place from which he had lately come, and where the cocks and hens,—all known as "Cocky,"—had been very particular friends of his, and where he used to be quite willing to visit them alone. But from this time forth "Cocky" was and is the name used by him to distinguish the creature of his imagination, though the "Cocky" of real life still remains with him an object of affection. This and the next few nights were the only nights he objected to his dark bedroom. After that it did not strike him as terrible, and he has since always been put to bed quite in the dark without the slightest sign of fear.

The next night, or only a few nights after, I was walking upstairs, with him a few steps in front of me, past the door of the bath-room in which the cistern was making rather mysterious hissing noises. He hurried past it quite quickly for his little legs, half looking back all the time, and said to me, "Cocky in 'ere". "Cocky" now became partially localised in the bath-room. A few days after we were passing the room by daylight. He was now in an extremely brave and propitiative mood and ran in boldly and kissed at the air in the room and said to me self-complacently "Hennie kiss Cocky". "Hennie" is his name for himself, a corruption for *Henry*. A few days after we again passed the room by daylight. He had some little toy in his hand. He was now in a less brave but in an equally propitiative mood. He thrust his little hand through the half-closed door and threw in the toy, laughing rather hysterically and saying, "Hennie give toy Cocky". But the bath-room was not always an awful room, and seems now that he is two years and four months old not to be remembered

as the habitation of the awful one at all, except very occasionally. And even during the time that I have just mentioned, though it was at times terrible to him, it was usually only the bathroom and nothing more, for he would walk into it fearlessly with or without me, and only once or twice I have noticed him take my hand and lead me rather anxiously out of the room, giving however no reason for doing so.

About two months ago, my little boy being then two years and two months, he came to me and said complainingly, though not apparently at all frightened, "Cocky in Hennie's tungup". "Tungup" is his word for *stomach*. As this remark was shortly followed by an attack of diarrhœa, I have no doubt that he felt some pain in the part indicated, which he attributed to the malicious agency of "Cocky". Again, twice within the last few months he has complained, saying, "Cocky on Hennie's head". Whether he felt some pain or discomfort in his head I cannot say, but I think it probable that he did.

I think the fear of "Cocky" is now passing away. I seldom hear his name mentioned. The last time I heard any striking reference to him was a fortnight since. We were staying away from home. In the bedroom which we occupied was a bed hung round with a dark valance. He lifted this up inquisitively to see what was underneath; but to his eyes, accustomed to the light, all looked pitch dark. He quickly let the valance drop, and ran to me saying, "Cocky under muvver's bed".

When his belief in and fear of "Cocky" was at its height his references to him were constant, and I have only mentioned here those of especial interest.

He personifies the sun in an amusing way. One day when he was about two years and two months old he was sitting on the floor in a great temper over some trifle. He looked up and saw the sun through the window. He suddenly stopped crying and said angrily, "Sun *not* look at Hennie". He said this two or three times, and then finding the sun persistently "looked" at him, he changed his tone to one pathetically imploring and said, "*Please* Sun not look at poor Hennie". I have noticed this adjuration of the sun when he has been crying two or three times since.

E. M. Stevens.

The Aristotelian Society for the Systematic Study of Philosophy.—The Seventh Session was opened on Monday, Oct. 26, by an Address from the President on "Philosophy and Experience," in which the principles of a new method for applying subjective analysis to the whole content of experience were laid down, and the resulting systematisation of philosophy described. On Monday, Nov. 16, the subject of Kant's Ethical System, selected as the special subject for the present Session, was opened by a paper from Mr. Scrymgour, on Kant's *Grundlegung zur Metaphysik der Sitten*. On Monday, Nov. 30, one of the evenings devoted to original communications, Mr. D. G. Ritchie read a paper on Plato's *Phædo*, which was followed by a discussion. [For short notice of the President's Address, see p. 123, above].

Dr. W. B. Carpenter died on the morning of 10th November last, from the effects of a frightful accident. He had just completed his 72nd year, having been born on 29th October, 1813, at Bristol. Besides doing first-rate work as a naturalist all through his life, he signalised himself early by his philosophical grasp of biological principles, and was led, through careful study of the physiology of the nervous system in man and animals, to the development of striking and original views in psychology. These, after having long before been sketched out in occasional writings and in his well-known *Human Physiology*, got final expression in his *Principles of*

Mental Physiology (1874), a work that deals in the most interesting way especially with the class of abnormal mental phenomena. The end so tragic to a life full of high purpose, strenuous endeavour and remarkable achievement has been widely and deeply lamented.

M. Th. Ribot, editor of the *Revue Philosophique* and who has done more than any other Frenchman to bring his country into line with the foremost in the advance of scientific psychology, has just been appointed, by M. Liard, Director of Superior Instruction (himself an open-minded worker in philosophy), to a newly founded chair of Experimental Psychology in the Sorbonne. This is a veritable sign of the times. Prof. Ribot now takes a place, as the representative of modern scientific methods, in the venerable corporation ; lecturing, in the present session, on "The Sentiments and Emotions according to contemporary psychology," by the side of MM. Caro, Janet, Waddington and other upholders of the French official tradition.

Dr. R. Reicke, University-Librarian in Königsberg, has long been engaged in collecting the correspondence of Kant, for publication by Leopold Voss in Hamburg. Collector and publisher earnestly request that to either of them should be sent any information as to hitherto unpublished letters of Kant's, or any, the slightest, notices of him by his contemporaries ; these last often proving of no small importance when brought into relation with the materials already in hand.

Mr. J. T. Merz's *Leibniz* (in the series of "Philosophical Classics for English Readers") has just been translated into German, under the superintendence of Prof. C. Schaarschmidt of Bonn, who gave it high commendation in the *Philosophische Monatshefte*. The publisher is G. Weiss of Heidelberg.

Prof. A. Krohn of Kiel who, after being for a time conjoined with Ulrici, succeeded him in the editorship of the *Zeitschrift für Philosophie, &c.*, has now, since Bd. lxxxvi. 2, obtained a coadjutor in Dr. R. Falckenberg, *Privatdocent* in Jena. The *Zeitschrift* is by far the oldest of German philosophical journals, and has done good work in its time, though in later years it has rather lost ground. A serious effort is now being made, by editor and publisher (R. Stricker of Halle), to bring it again well to the front, both by materially improving its external form (in the last two Nos.), and by giving to its contents a greater amount of present interest. The old idealistic point of view will be adhered to, as never more than now needing to be maintained ; but (1) by giving special heed to "the theory of historical phenomena," (2) by deliberate general surveys of the movements of thought (rather than by a mass of hurried criticism of particular books), and (3) by taking regular account of the philosophical activity of foreign countries, it is hoped that a new reputation may be won. The latest No. (contents given below) is intended as a specimen of what is to follow.

The Journal of Speculative Philosophy.—Vol. xix., No. 2. R. A. Holland—Immortality. B. S. Lyman—The Character of the Japanese. Goeschel—On the Immortality of the Soul. W. T. Harris—The Immortality of the Individual. Notes and Discussions.

Revue Philosophique.—An. x., No. 10. Ch. Féré—Sensation et mouvement (avec figures). B. Pérez—La conscience et l'inconscience chez l'enfant de trois à sept ans. P. Tannery—Le concept scientifique du continu : Zénon d'Élée et G. Cantor. Observations et Documents (Bourru et Burot—Un cas de multiplicité des états de conscience avec changement de personnalité). Analyses et Comptes-rendus. Rev. des Périod. No. 11. F. Paulhan—Les phénomènes affectifs au point de vue de la psychologie générale (i.). V. Egger—Sur quelques illusions visuelles (avec figures).

J. Héricourt—La graphologie. Notes et Discussions (J. Delboeuf—Une hallucination à l'état normal et conscient. Sur les suggestions à date fixe. S. Reinach—L'idée du bien et du juste). Analyses, &c. (F. H. Bradley, *Principles of Logic*, &c.) Rev. des Période. No. 12. E. Naville—La doctrine de l'évolution comme système philosophique. F. Paulhan—Les phénomènes affectifs, &c. (fin). E. Gley—Le "sens musculaire" et les sensations musculaires. Notes (C. Stumpf—Sur la représentation des mélodies). Analyses. (J. T. Merz, *Leibniz*, E. Caird, *Hegel*, &c.) Rev. des Période.

La Critique Philosophique (Nouv. Sér.).—An. i., No. 9. C. Renouvier—Les problèmes de l'esthétique contemporaine : La nouvelle métrique . . . . L. Dauriac—*Les Origines*, par M. de Pressensé. . . . Notices bibliog. No. 10. C. Renouvier—La morale criticiste et la critique de M. A. Fouillée (iii.). . . . L. Dauriac—Du criterium de la verité selon M. H. Spencer. . . . Notices bibliog. No. 11. F. Pillon—*L'Idée de la responsabilité*, par Lévy-Bruhl. C. Renouvier—Intelligence et conscience : l'esprit est inséparable de l'âme. F. Pillon—Eugène Pelletan et sa philosophie du progrès. L. Dauriac—La philosophie à la Sorbonne. E. Pétavel-Olliff—La vieille théologie et la nouvelle. . . . Notices bibliog.

La Filosofia delle Scuole Italiane.—Vol. xxxii., Disp. 1. F. Masci—Sulla natura logica delle conoscenze matematiche (i.). B. Labanca—Storia critica delle religioni : Giudaismo e Cristianesimo (fine). A. Valdarnini—Il Mamiani e la questione economico-sociale. Bibliografia, &c. Disp. 2. L. Ferri—Un libro recente di psicofisiologia : L'ipnotismo. F. Masci—Sulla natura logica, &c. (ii.). R. Bobba—Un nuovo libro sulla storia della filosofia. Bibliog., &c. Disp. 3. G. Jandelli—Le malattie della personalità. F. Tocco—Quistioni platoniche. F. Masci—Sulla natura, &c. (fine). Bibliog., &c..

Zeitschrift für Philosophie, &c.—Bd. lxxxvi., Heft 2 (only now come to hand : contents should have been given in Mind 39). C. T. Isenkrähe—Das Unendliche in der Ausdehnung (Schluss). K. H. v. Stein—Ueber den Zusammenhang Boileau's mit Descartes. F. Sattig—Der protagoreische Sensualismus u. seine Um- u. Fortbildung durch die Sokratische Begriffsphilosophie. Bd. lxxxvii., Heft 2. R. Eucken—Die Philosophie des Thomas von Aquino ab u. die Kultur der Neuzeit. E. v. Hartmann—Köstlin's Æsthetik. Anon.—Streifzüge durch die Philosophie der Gegenwart. R. Falckenberg—Ueber die Bedeutung der Philosophiegeschichte u. den Charakter der neueren Philosophie. J. Walter—Ueber Reformversuche der Ethik, speciell Witte's Buch über die Freiheit des Willens. Recensionen, &c.

Philosophische Monatshefte.—Bd. xxii., Heft 1, 2. C. Gerhard—Kant's Lehre von der Freiheit. E. v. Hartmann—Ein vergessener Æsthetiker. J. Witte—Ein kurzes Wort zu O. Gierke's Beurtheilung des neuesten Werkes von W. Dilthey. Recensionen u. Anzeigen (R. Flint, *Vico*, &c.). Litteraturbericht. Bibliographie, &c. Heft 3. M. Sartorius—Die Realität der Materie bei Plato. Recensionen. Litteraturbericht, &c.

Vierteljahrsschrift für wissenschaftliche Philosophie.—Bd. ix., Heft 4. Schmitz-Dumont—Der Gegensatz. R. Wahle—Bemerkungen zur Beschreibung u. Eintheilung der Ideenassociationen. B. Kerry—Ueber Auschauung u. ihre psychische Verarbeitung. Anzeige. Selbstanzeigen, &c.

Philosophische Studien.—Bd. iii., Heft 1. G. Th. Fechner—In Sachen des Zeitsinnes u. der Methode der richtigen u. falschen Fälle, gegen Estel u. Lorenz. G. O. Berger—Ueber den Einfluss der Reizstärke auf die Dauer einfacher psychischen Vorgänge mit besonderer Rücksicht auf Lichtreize (mit Taf. 1). J. M. Cattell—Ueber die Trägheit der Netzhaut u. des Sehcentrums (mit 4 Holzschnitten). O. Fischer—Psychologische Analyse der stroboskopischen Erscheinungen (mit Taf. 2). L. Nedich—Die Lehre von der Quantification des Prädicats in der neueren englischen Logik.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—PSYCHOLOGY AS PHILOSOPHIC METHOD.

By John Dewey.

In an article on "The Psychological Standpoint" in Mind 41, I endeavoured to point out that the characteristic English development in philosophy—the psychological movement since Locke—had been neither a "threshing of old straw," nor a movement of purely negative meaning, whose significance for us was exhausted when we had learned how it necessarily led to the movement in Germany—the so-called "transcendental" movement. Its positive significance was found to consist in the fact that it declared consciousness to be be the sole content, account and criterion of all reality; and psychology, as the science of this consciousness, to be the explicit and accurate determination of the nature of reality in its wholeness, as well as the determination of the value and validity of the various elements or factors of this whole. It is the ultimate science of reality, because it declares what experience in its totality is; it fixes the worth and meaning of its various elements by showing their development and place within this whole. It is, in short, *philosophic method*. But that paper was necessarily largely negative, for it was necessary to point out that as matter of fact the movement had not been successful in

presenting psychology as the method of philosophy, for it had not been true to its own basis and ideal. Instead of determining all, both in its totality and its factors, through consciousness, it had endeavoured to determine consciousness from something out of and beyond necessary relation to consciousness. It had determined its psychology from a dogmatically presupposed ontology, instead of getting at its ontology from a critical examination of the nature and contents of consciousness, as its standpoint required. It had a thing-in-itself, something whose very existence was to be opposed to consciousness, as in the unknowable "substances" of Locke, the transcendent Deity of Berkeley, the sensations or impressions of Hume and Mill, the "transfigured real" of Spencer; and it used this thing-in-itself as the cause and criterion of conscious experience. Thus it contradicted itself; for, if psychology as method of philosophy means anything, it means that nothing shall be assumed except just conscious experience itself, and that the nature of all shall be ascertained from and within this.

It is to the positive significance of psychology as philosophic method—its significance when it is allowed to develop itself free from self-contradictory assumptions—that this present paper is directed. It was suggested in the previous paper that this method, taken in its purity, would show substantial identity with the presuppositions and results of the "transcendental" movement. And as the principal attacks upon the pretensions of psychology to be method for philosophy, or anything more than one of the special sciences, have come from representatives of this movement, this paper must be occupied with treating psychology in reference to what we may call German philosophy, as the other treated it in reference to English philosophy. In so far as the criticisms from this side have been occupied with pointing out the failure of the actual English psychology to be philosophy, there is of course no difference of opinion. That arises only in so far as these criticisms have seemed (*seemed*, I repeat) to imply that the same objections must hold against every *possible* psychology; while it seems to the writer that psychology is the only *possible* method.

It is held, or seems to be held, by representatives of the post-Kantian movement, that man may be regarded in two aspects, in one of which he is an object of experience like other objects: he is a finite thing among other finite things; with these things he is in relations of action and reaction, but possesses the additional characteristic that he is a knowing, feeling, willing *phenomenon*. As such, he forms

the object of a special science, psychology, which, like every other special science, deals with its material as pure object, abstracting from that creative synthesis *of subject and object*, self-consciousness, through which all things are and are known. It is therefore, like all the special sciences, partial and utterly inadequate to determining the nature and meaning of that whole with which philosophy has to deal. Nay more, it is itself ultimately dependent upon philosophy for the determination of the meaning, validity and limits of the principles, categories and method which it unconsciously assumes. To regard psychology therefore as philosophic method is to be guilty of the same error as it would be to regard the highest generalisations of, say, physics, as adequate to determining the problems of philosophy. It is an attempt to determine the unconditioned whole, self-consciousness, by that which has no existence except as a conditioned part of this very whole.

"Metaphysics (says Prof. Caird) has to deal with conditions of the knowable, and hence with self-consciousness or that unity which is implied in all that is and is known. Psychology has to inquire how this self-consciousness is realised or developed in man, in whom the consciousness of self grows with the consciousness of a world in time and space, of which he individually is only a part, and to parts of which only he stands in immediate relation. In considering the former question we are considering the sphere within which all knowledge and all objects of knowledge are contained. In considering the latter, we are selecting one particular object or class of objects within this sphere. . . . It is possible to have a *purely objective* anthropology or psychology—which abstracts from the relation of man to the mind that knows him—just as it is possible to have a purely objective science of nature." [1]

The other aspect of man is that in which he, as self-conscious, has manifested in him the unity of all being and knowing, and is not finite, *i.e.*, an object or event, but is, in virtue of his self-conscious nature, infinite, the bond, the living union of all objects and events. With this infinite, universal self-consciousness, philosophy deals; with man as the object of experience, psychology deals.

In stating the position of the post-Kantian movement, I used the word *seemed*, and used it advisedly, as I do not conceive that at bottom there is any difference of opinion. But it seems to me that there are invariably involved in the reasonings of this school certain presuppositions regarding the real science of psychology which, probably for the reason that the writers have seen such misuse made of a false

[1] Art. "Metaphysic," *Ency. Britt.*, xvi., 89. Cp. Prof. Adamson, *Philosophy of Kant*, pp. 22 ff., *Fichte*, pp. 109 ff.; *Essays in Philosophical Criticism*, pp. 44 ff.; Prof. A. Seth, *Ency. Britt.*, art. "Philosophy".

psychology, are not distinctly stated, and which, accordingly, not only lessen the convincing force with which their reasonings are received by those unacquainted with the necessity and rationality of these presuppositions, but which also, as not distinctly thought out, tend at times to involve these reasonings in unnecessary obscurity and even contradictions. It is these presuppositions regarding the nature of a real psychology, lying at the basis of all the work of the post-Kantian school, conditioning it and giving it its worth, which it is the object of this paper to examine.

The start is made accordingly from the supposed distinction of aspects in man's nature, according to one of which he is an object of experience and the subject of psychology, and according to the other of which, he, as self-consciousness, is the universal condition and unity of all experience, and hence not an object of experience. As I have already referred to Prof. Adamson's treatment of this distinction, let me refer to a later writing of his which seems to retract all that gave validity to this distinction. In a recent number of MIND (ix. 434), after pointing out that the subject-matter of psychology *cannot* be *pure* objects but must always be the reference of an individual subject to a content which is universal, he goes on with the following most admirable statement:

> "It is in and through the conscious life of the individual that all the thinking and acting which form the material for other treatment is realised. When we isolate the content and treat it as having a *quasi*-existence *per se*, we are in the attitude of objective or natural science. When we endeavour to interpret the significance of the whole, to determine the meaning of the connective links that bind it together, we are in the attitude of philosophy. But when we regard the modes through which knowledge and acting are realised in the life of an individual subject, we are in the position of the psychological inquirer."

Now, when psychology is defined as the science of the realisation of the universe in and through the individual, all pretence of regarding psychology as merely one of the special sciences, whose subject-matter by necessity is simply some one department of the universe, considered out of relation to the individual, is, of course, abandoned. With this falls, as a matter of course, the supposed two-fold character of man's nature. If the essence of his nature is to be the realisation of the universe, there is no aspect in which, *as man*, it appears as a mere object or event in the universe. The distinction is now transferred to the two ways of looking at the same material, and no longer concerns two distinct materials. Is this distinction, however, any more valid? Is there

any reason for distinguishing between the modes through which the universe is realised in an individual, and the significance of this universe as a whole? At first sight there may appear to be, but let us consider the following questions. Does the whole have any significance beyond itself? If we consider experience in its absolute totality so far as realised in the individual, can the "significance of the whole" be determined beyond what itself testifies to as a whole; and do the "connective links which bind together" have any "meaning" except just as they do bind together? And since this whole and these connective links are given to us by the science of psychology, what is this except completed philosophic method, and what more has philosophy to do except to abstract from this totality, and regard it, on its material side, as philosophy of nature, and on its formal as real logic? Psychology, as science of the realisation through the individual of the universe, answers the question as to the significance of the whole, by giving that whole, and at the same time gives the meaning of the parts and of their connexion by showing just their place within this whole.

It would be fatal to the existence of philosophy as well as of psychology to make any distinction here. Were not the universe realised in the individual, it would be impossible for the individual to rise to a universal point of view, and hence to philosophise. That the universe has not been completely realised in man is no more an objection to the employment of psychology as the determination of the nature of this universe, than it is to any treatment of philosophy whatever. In no way can the individual philosophise about a universe which has not been realised in his conscious experience. The universe, except as realised in an individual, has no existence. In man it is partially realised, and man has a partial science; in the absolute it is completely realised, and God has a complete science. Self-consciousness means simply an individualised universe; and if this universe has *not* been realised in man, if man be not self-conscious, then no philosophy whatever is possible. If it *has* been realised, it is in and through psychological experience that this realisation has occurred. Psychology is the scientific account of this realisation, of this individualised universe, of this self-consciousness. What other account can be given? It is the object of this paper to show that no other account can be given. Not only is any final distinction or dualism, even of aspects, in man's nature utterly untenable, but no distinction even of aspects can be

made in the *treatment* of man's nature. Psychology has to do with just the consciousness which constitutes man's experience, and all further determinations of experience fall within this psychological determination of it, and are hence abstract. More definitely, Psychology, and not Logic, is the method of Philosophy. Let us deal *seriatim* with these two questions.

I.

No such distinction in the nature of man, as that in one aspect he is "part of the partial world," and hence the subject of a purely natural science, psychology, and in another the conscious subject for which all exists, the subject of philosophy, can be maintained. This is our first assertion. Let us turn again to that most lucid and comprehensive statement of philosophic doctrine by Prof. Caird, from which extract has already been made. The distinction to be upheld is that between the "sphere in which all knowledge and all objects of knowledge are contained" and "one particular object within this sphere". The question which at once arises is, How does this distinction come about? Granted that it is valid, how is man known as requiring in his nature this distinction for his proper comprehension? There is but one possible answer: it is a distinction which has arisen within and from conscious experience itself. In the course of man's realisation of the universe there is necessitated this distinction. This distinction therefore falls within the sphere of psychology, and cannot be used to fix the position of psychology. Much less can psychology be identified with some one aspect of experience which has its origin only within that experience which in its wholeness constitutes the material of psychology. The distinction, as we shall immediately see, cannot be an absolute one: by no possibility or contingency can man be regarded as *merely* one of objects of experience; but so far as the distinction has relative validity it is a purely psychological one, originating because man in his experience, at different *stages* of it, finds it necessary to regard himself in two lights,—in one of which he is a particular space- and time-conditioned being (we cannot say object or event) or activity, and in the other the unconditioned eternal synthesis of all. At most the distinction is only one of various stages in one and the same experience, both of which, as stages of experience—one, indeed, of experience in its partiality and the other of experience in its totality—fall within the science of experience, *viz.*, psychology.

We will see how the question stands if we state it otherwise. Does or does not the self-consciousness of man fall within the science of psychology? What reason can be given for excluding it? Certainly few would be found so thorough-going as to deny that perception is a matter which that science must treat; those however who admit perception would find themselves hard put to it to give a reason for excluding memory, imagination, conception, judgment, reasoning. Why having reached the stage of reasoning, where the original implicit individual with which we began has been broken up into the greatest possible number of explicit relations, shall we rule out self-consciousness where these relations are again seen united into an individual unity? There is no possible break: either we must deny the possibility of treating perception in psychology, and then our "purely objective science of psychology" can be nothing more than a physiology; or, admitting it, we must admit what follows directly from and upon it—self-consciousness. Self-consciousness is indeed a *fact* (I do not fear the word) of experience, and must therefore find its treatment in psychology.

But this is not all. Not only does self-consciousness appear as one of the stages of psychological experience, but the explanation of the simplest psychological fact—say one of perception, or feeling, or impulse—involves necessary reference to self-consciousness. Self-consciousness is involved in every simpler process, and no one of them can be scientifically described or comprehended except as this involution is brought out. In fact, their comprehension or explanation is simply bringing to light this implication of self-consciousness within them. This would be the last thing that the upholders of self-consciousness as the final unity and synthesis, the absolute meaning of experience, could deny. The organic nature of self-consciousness being their thesis, it must indeed reveal itself in, or rather constitute, each of its members and phases. The very *existence* of any idea or feeling being ultimately its relation to self-consciousness, what other account of it can be given except its organic placing in the system? If there be such an act as perception, a candid, careful examination of it, *not of its logical conditions*, but of itself as *matter of experienced fact*, will reveal what it is; and this revelation will be the declaration of its relation to that organic system which in its wholeness is self-consciousness. We may then abstract from this relation, which constitutes its very being, and consider it as an *object of perception*, and, generalising the case, produce a

philosophy of nature; or, considering it as conditioned by thought, we may thus produce a logic. But both of these proceedings go on in abstraction from its real being, and cannot give the real method of philosophy. In short, the real *esse* of things is neither their *percipi*, nor their *intelligi* alone; it is their *experiri*. Logic may give us the science of the *intelligi*, the philosophy of nature of the *percipi*, but only psychology can give us the systematic connected account of the *experiri*, which is also in its wholeness just the *experior*—self-consciousness itself.

We may see how the matter stands by inquiring what would be the effect upon philosophy if self-consciousness were not an *experienced fact, i.e.*, if it were not one actual stage in that realisation of the universe by an individual which is defined as constituting the sphere of psychology. The result would be again, precisely, that no such thing as philosophy, under any theory of its nature whatever, is possible. Philosophy, it cannot be too often repeated, consists simply in viewing things *sub specie æternitatis* or *in ordine ad universum*. If man, as matter of fact, does not realise the nature of the eternal and the universal *within* himself, as the essence of his own being; if he does not at one stage of his experience consciously, and in all stages implicitly, lay hold of this universal and eternal, then it is mere matter of words to say that he can give no account of things as they universally and eternally are. To deny, therefore, that self-consciousness is a matter of psychological experience is to deny the possibility of any philosophy.

What the denial comes to we have had historically demonstrated in Kant. He admits perception and conception as matters of experience, but he draws the line at self-consciousness. It is worth noticing that his reason for denying it is not psychological at all, but logical. It is not because self-consciousness *is* not a fact, but because it *cannot* be a fact according to his logical presuppositions. The results following the denial are worthy of notice as corresponding exactly to what we might be led to expect: first, with the denial of the fact of self-consciousness comes the impossibility of solving the problem of philosophy, expressed in the setting up of an unknown thing-in-itself as the ultimate ground and condition of experience; and, secondly, comes the failure to bring perception and conception into any organic connexion with experience, that is, the failure to really comprehend and explain them, manifested in the limitation of both perception, through the forms of space and time, and thinking, through the categories, to pheno-

mena which are in no demonstrable connexion with reality. The failure to recognise self-consciousness as a stage of psychological experience leads not only to a failure to reach the alternate synthesis of experience, but renders it impossible to explain the simpler forms of psychological experience. This failure of Kant teaches us another lesson also, in that, as already stated, it was due to abandoning his real method, which was *psychological*, consisting in the self-knowledge of reason as an organic system by reason itself, and setting up a *logical* standard (in this latter case the principles of non-contradiction and identity), by which to determine the totality of experience. The work of Hegel consisted essentially in showing that Kant's *logical* standard was erroneous, and that, as matter of logic, the only true criterion or standard was the organic notion, or *Begriff*, which is a systematic totality, and accordingly able to explain both itself and also the simpler processes and principles. That Hegel accomplished this work successfully and thoroughly there can be to the writer no doubt; but it seems equally clear that the work of Kant is in need of another complement, following more closely his own conception of method and of philosophy, which shall consist in showing self-consciousness as a fact of experience, as well as perception through organic forms and thinking through organic principles. And it seems further that, only when this has been done, will, for the first time, the presuppositions latent in the work of Hegel, which give it its convincing force and validity, be brought out.

Again, it seems worthy of note, that the late Prof. Green (of whom the writer would not speak without expressing his deep, almost reverential gratitude), when following out Kant's work from its logical side, hardly escaped Kant's negative results. (By Kant's logical method we mean the inquiry into the *necessary conditions* of experience; by his psychological method the inquiry into the *actual nature* of experience.) After his complete demonstration of consciousness as the final condition, synthesis and unity of all that is or is knowable, he finds himself obliged to state (*Prolegg. to Ethics*, p. 54): "As to what that consciousness in itself or in its completeness is, we can only make negative statements. *That* there is such a consciousness is implied in the existence of the world; but *what* it is we can only know through its so far acting in us as to enable us, however partially and interruptedly, to have knowledge of a world or an intelligent experience." Had he begun from the latter statement, and shown as matter of fact that this universal

consciousness *had* realised itself, though only partially and interruptedly, in us, he certainly would have been able to make very positive statements regarding it, and would also have furnished a basis in fact for his logical method, which now seems to hang upon nothing but a unity of which all that can be said is that it *is* a unity, and that it *is not* anything in particular. When one reflects that it is not only upon the existence of this unity, but upon its working in and through us, that all philosophy and philosophising depend, one cannot conceal the apprehension that too great a load of philosophy has been hung upon too feeble a peg.

So, too, after his victorious demonstration that upon the existence of this spiritual unity depends the possibility of all moral experience, he finds himself obliged to state (p. 180), with that candour so characteristic of all his thinking: "Of a life of completed development, of activity with the end attained, we can only speak or think in negatives, and thus only can we speak or think of that state of being in which, according to our theory, the ultimate moral good must consist". Once more, had he started from the fact that as matter of actual realisation this absolute good has been reproduced in our lives and the end attained (for surely the good is a matter of quality and not of quantity, and the end a power, not a sum), he would not have found himself in this difficulty. But with a purely logical method, one can end only with the *must be* or the *ought*: the *is* vanishes, because it has been abstracted from. The psychological method starts from the *is*, and thereby also gives the basis *and* the ideal for the *ought* and *must be*.

But it is time that we returned to our thesis, which, in brief, was that no distinction which maintains that psychology is the science of man as "part of this partial world" can be maintained. The following reasons for this denial have been given: it was pointed out that the relative validity which this distinction in man's nature undoubtedly possesses is itself the product and manifestation of psychological experience; that man as man, or as the conscious experience whose science is psychology, is self-conscious, and that therefore self-consciousness as the unity of subject and object, not as "purely objective," as the totality, not as a "part," must be included in the science of psychology; and that furthermore this treatment of self-consciousness is necessary for the explanation and comprehension of any partial fact of conscious experience. And finally, it was pointed out that the denial of self-consciousness as constitut-

ing matter of experience, and hence of psychology, was the denial of the possibility of philosophy itself; and this was illustrated by historic examples. Before passing on to the second topic, I wish briefly to return to Prof. Caird's exposition, and shelter myself somewhat beneath the wings of his authority. In the article already referred to, he goes on to state that the natural objective science of man after all "omits the distinctive characteristic of man's being"; that while we may treat inorganic nature and even organic with purely natural objective methods and principles, because "they are not unities for *themselves*, but only *for us*," such treatment cannot be applied to man, for man *is for himself*, *i.e.*, is not a pure object, but is self-consciousness. Thus, he continues (p. 89):

"In man, in so far as he is self-conscious—*and it is self-consciousness that makes him man*—the unity through which all things are and are known is manifested. . . . Therefore to treat him as a simply natural being is *even more inaccurate and misleading* than to forget or deny his relation to nature altogether. A true psychology must avoid both errors: it must conceive man as at once spiritual and natural; it must find a reconciliation of freedom and necessity. It must face *all the difficulties involved in the conception of the absolute principle of self-consciousness*—through which all things are and are known—*as manifesting itself in the life of a being like man*, who 'comes to himself' only by a long process of development out of the unconsciousness of a merely animal existence."

When it is stated, later on, that the natural science of man "is necessarily abstract and imperfect, as it omits from its view the central fact in the life of the object of which it treats" (p. 92), it is hardly worth while discussing whether there be any such science or not. But there is suggested for us in the quotation just made our second problem—the final relation of psychology, which confessedly must deal with self-consciousness, to philosophy. For there the problem of psychology was stated to be the question of the "absolute principle of self-consciousness, manifesting itself in the life of a being like man". That is, it is here suggested that psychology does not deal with the absolute principle in itself, but only with the modes by which this is manifested or realised in the life of man. Psychology no longer appears as an objective science; it now comes before us as a phenomenology, presupposing a science of the absolute reality itself. It is to this question that I now turn. Is psychology the science *merely* of the manifestation of the Absolute, or is it the science of the Absolute itself?

II.

The relation of Psychology to Philosophy now stands, I suppose, something like this:—There is an absolute self-consciousness. The science of this is philosophy. This absolute self-consciousness manifests itself in the knowing and acting of individual men. The science of this manifestation, a phenomenology, is psychology. The distinction is no longer concerned with man's being itself; it is a distinction of treatment, of ways of looking at the same material. Before going to its positive consideration the following questions may suggest the result we desire to reach. How does there come about this distinction between the "spiritual" and the "natural," between "freedom" and "necessity"? How does there come into our knowledge the notion of a distinction between the "absolute principle of self-consciousness" and "man coming to himself only by a long process of development out of the unconsciousness of a merely animal existence"? Is this a distinction which falls outside the subject-matter of psychology, and which may therefore be used to determine it; or is it one which has originated *within* psychological experience, and whose nature therefore, instead of being capable of fixing the character of psychology, must itself be determined *by* psychology? Furthermore, what *is* this distinction between the absolute self-consciousness and its manifestation in a being like man? Is the absolute self-consciousness complete in itself, or does it involve this realisation and manifestation in a being like man? If it is complete in itself, how can any philosophy which is limited to "this absolute principle of self-consciousness" face and solve the difficulties involved in its going beyond itself to manifest itself in self-consciousness? This cannot be what is meant. The absolute self-consciousness must involve within itself, as organic member of its very being and activity, this manifestation and revelation. Its being must be this realisation and manifestation. Granted that this realisation and manifestation is an act not occurring in time, but eternally completed in the nature of the Absolute, and that it occurs only "partially" and "interruptedly" *through* (not *in*) time, in a being like man,—the fact none the less remains that philosophy, under any theory of its nature, can deal with this absolute self-consciousness only so far as it has partially and interruptedly realised itself in man. For man, as object of his philosophy, this Absolute has existence only so far as it has manifested itself in his conscious experience. To return to our questions: If the material of philosophy be the

absolute self-consciousness, and this absolute self-consciousness *is* the realisation and manifestation of itself, and as material for philosophy exists only in so far as it has realised and manifested itself in man's conscious experience, and if psychology be the science of this realisation in man, what else can philosophy in its fulness be but psychology, and psychology but philosophy?

These questions are stated only to suggest the end which we shall endeavour to reach. I shall not attempt to answer them directly, but to consider first the relations of Psychology to Science, and hence to Philosophy; and secondly to Logic.

(1) *The Relation of Psychology to Science.*—Psychology is the completed method of philosophy, because in it science and philosophy, fact and reason, are one. Philosophy seems to stand in a double relation to Science. In its first aspect it is *a* science—the highest of all sciences. We take one sphere of reality and ask certain questions regarding it, and the answers give us some one science; we find in the process that this sphere of reality can only artificially be thus isolated, and we broaden and deepen our question, until finally, led by the organic connexion of science with science, we ask after the nature of all reality, as one connected system. The answer to this question constitutes philosophy as one science amid the circle of sciences. But to continue to regard it in this way is to fail to grasp the meaning of the process which has forced us into philosophy. At the same time that philosophy is seen as the completion of the sciences, it is seen as their basis. It is no longer *a* science; it is Science. That is to say, the same movement of thought and reality which forces upon us the conception of a science which shall deal with the totality of reality forces us to recognise that no one of our previous sciences was in strict truth science. Each abstracted from certain larger aspects of reality, and was hence hypothetical. Its truth was conditioned upon the truth of its relations to that whole which that science, as special science, could not investigate without giving up its own independent existence. Only in this whole is categorical truth to be found, and only as categorical truth is found in this whole is the basis found for the special sciences. Philosophy as the science of this whole appears no longer therefore as *a* science, but as all science taken in its organic systematic wholeness,—not merely to which every so-called special science is something subordinate, but of which it constitutes an organic member. Philosophy has no existence except as the organic living unity and bond

of these sciences; they have no existence except through their position in this living synthesis.

Now the question is, where does psychology stand within this organism? On the one hand, psychology is certainly a positive science. It finds its materials in certain facts and events. As to systematic observation, experiment, conclusion and verification, it can differ in no essential way from any one of them. It is based upon and deals with fact, and aims at the ordered comprehension and explanation of fact as any special science does. Yet the whole drift of this paper has been to show that in some way psychology does differ very essentially from any one of them. Where shall we find this difference? In one word, its relation to them is precisely that which we have discovered philosophy to bear: it is not only *a* science, but it turns out to be science as an organic system, in which every special science has its life, and from which it must abstract when it sets up for an independent existence of its own. We begin with any special science. That turns out to be not only some one department or sphere of reality, but also some one department of conscious experience. From one science to another we go, asking for some explanation of conscious experience, until we come to psychology, which gives us an account of it, in its own behalf, as neither mathematics, nor physics, nor biology does. So far we have only *a* special science, though the highest and most concrete of all. But the very process that has made necessary this new science reveals also that each of the former sciences existed only in abstraction from it. Each dealt with some one phase of conscious experience, and for that very reason could not deal with the totality which gave it its being, consciousness. But in psychology we have the manifestation and explication of this consciousness. It gives in its wholeness what each of them would give in part, *viz.*, the nature of experience, and hence is related to them as the whole is to the part. It appears no longer, therefore, as the highest *of* sciences: it appears as Science itself, that is, as systematic account and comprehension of the nature of conscious experience. Mathematics, physics, biology exist, because conscious experience reveals itself to be of such a nature, that one may make virtual abstraction from the whole, and consider a part by itself, without damage, so long as the treatment is purely scientific, that is, so long as the implicit connexion with the whole is left undisturbed, and the attempt is not made to present this partial science as metaphysic, or as an explanation of the whole, as is the usual fashion of our

uncritical so-called "scientific philosophies". Nay more, this abstraction of some one sphere is itself a living function of the psychologic experience. It is not merely something which it allows: it is something which it *does*. It is the analytic aspect of its own activity, whereby it deepens and renders explicit, realises its own nature; just as their connexion with each other is the synthetic aspect of the same self-realising movement, whereby it returns to itself: while psychology in its completeness is the whole self-developing activity itself, which shows itself as the organic unity of both synthetic and analytic movements, and thus the condition of their possibility and ground of their validity. The analytic movement constitutes the special sciences; the synthetic constitutes the philosophy of nature; the self-developing activity itself, as psychology, constitutes philosophy.

What other position can be given psychology, so soon as we recognise the absurdity and impossibility of considering it a purely objective science? It is the science of the modes by which, in and through the individual, the universe is realised, it is said. But that the universe has no existence except as absolutely realised in an individual, *i.e.*, except as self-consciousness, is precisely the result of philosophy, and can therefore be no objection to such a consideration of the universe: in fact, such a statement only amounts to saying that psychology considers the universe as it really is. If the assertion is varied again, to read that philosophy treats of this individualised universe as it eternally *is*, while psychology can treat of it only as it partially and interruptedly *becomes*, this loses sight of two very important facts. First, philosophy can treat of absolute self-consciousness only in so far as it *has become* in a being like man, for otherwise it is not material for philosophy at all; and, secondly, it falls into the error of regarding this realisation in man as a time-conditioned product, which it is not. Time is not something outside of the process of conscious experience; it is a form within it, one of the functions by which it organically constitutes its own being. In fact, psychology as philosophic method has an immense advantage at just this point over any other method of treating this problem. To any philosophy attempting to consider the absolute self-consciousness by itself, it must remain for ever an insoluble problem why the *is* should ever appear as *becoming*, why the eternal should ever appear through the temporal. Psychology solves the problem by avoiding the assumption which makes it a problem. For, dealing with an individualised universe, one of whose functions of realisation *is* time, it knows nothing

about any consciousness which is out of relation to time. The case is just here: if philosophy will deal with the absolute consciousness conceived as purely eternal, out of relation to time, then the existence of that which constitutes the actual content of man's experience is utterly inexplicable; it is not only a mystery, but a mystery which contradicts the very nature of that which is, *ex hypothesi*, the absolute. If philosophy does deal with the eternal absolute consciousness as for ever realised, yet as for ever having time as one of its organic functions, it is not open to any one to bring charges against psychology as philosophy, for this and no more psychology does.

The question just comes to this: If we start from reason alone we shall never reach fact. If we start with fact, we shall find it revealing itself as reason. The objection to an account of fact or experience as philosophy is but a prejudice, though historically considered a well-grounded one. On the one hand, it has arisen because some partial account of experience, or rather account of partial experience, has been put forth as the totality, and just because thus put forth as absolute has lost even the relative validity which it possessed as partial. Such is the procedure of Empiricism. On the other hand, we have had put forth as matter of fact certain truths declared to be immediate and necessary and intuitive, coming no one knows whence and meaning no one knows what. The aversion to immediacy, to "undeduced" fact, as given us by the Intuitionalists, is certainly a well-grounded one. But neither of these objections lies against psychology as account of the facts of experience Men are mortal, and every actual account of experience will suffer from the defects of mortals, and be but partial, no doubt; unfortunately we are none of us omniscient yet. But the very essence of psychology as method is that it treats of experience in its absolute totality, not setting up some one aspect of it to account for the whole, as, for example, our physical evolutionists do, nor yet attempting to determine its nature from something outside of and beyond itself, as, for example, our so-called empirical psychologists have done. The vice of the procedure of both is at bottom precisely the same—the abstracting of some one element from the organism which gives it meaning, and setting it up as absolute. It is no wonder that the organism always has its revenge by pronouncing this abstracted element "unknowable". The only wonder is that men should still bow in spirit before this creation of their own abstracting thought, and reverence it as the cause and ground of all

reality and knowledge. There is indeed an anthropomorphism which is degrading, but it is the anthropomorphism which sets up the feeblest element of its own thinking, pure being, as Mr. Spencer does, or the poorest element of its own feeling, a sensation, and reverences that as its own and the universe's cause. That is the anthropomorphism of the enslaved thought which has not yet awakened to the consciousness of its own totality and spiritual freedom.

Nor does the account of fact given by psychology have anything in common with the "ultimate, inexplicable, necessary" mental facts called intuitions. The fact of psychology reveals itself as precisely reason, which thereby accounts for itself, and in accounting for itself accounts for all its members. The fact of psychology is not isolated "truths," but the organic system of self-consciousness. This fact is indeed "immediate," but it is immediate only in and through a process, hence of mediation. It is indeed self-evidencing, but what it evidences is simply, of the parts, relation to and dependence upon the whole, and of the whole, that it is self-conditioned and self-related. Of the whole fact it may be said indeed that it is inexplicable. "It is true that we cannot explain the spiritual principle which is implied in all experience by reference to anything else than itself."[1] "Because all we can experience is included in this one world, and all our inferences and explanations relate only to its details, neither it as a whole, nor the one consciousness which constitutes it, can be accounted for in the ordinary sense of the word. They cannot be accounted for by what they include; and being all-inclusive, there remains nothing else by which they can be accounted for."[2] In short, any system of philosophy must ultimately fall back on the fact for which no reason can be given except precisely just that it is what it is. This implication of fact[3] is latent in all philosophy whatever, and all that psychology as philosophic method does is to render this necessary implication explicit. It alone starts from the completed fact, and it alone is therefore completed philosophy.

If it may have seemed at times in the course of the discussion that the nominal subject—the relation of psychology to science—had been left, it will now appear, I think, that we have all the time been dealing with just that subject.

[1] Prof. E. Caird, MIND viii. 560.

[2] Green, *Prolegomena to Ethics*, p. 52.

[3] The insistence upon this seems to have been Lotze's great work as a philosopher.

Science is the systematic account, or *reason* of *fact;* Psychology is the completed systematic account of the ultimate fact, which, as fact, reveals itself as reason, and hence accounts for itself, and gives the "reasons" of all sciences. The other point, the relation of psychology to logic, has already been dealt with by implication, and need not detain us long again.

(2) *The Relation of Psychology to Logic.*—The whole course of philosophic thought, so far as the writer can comprehend it, has consisted in showing that any distinction between the form and the matter of philosophic truth, between the content and the method, is fatal to the reaching of truth. Self-consciousness is the final truth, and in self-consciousness the form as organic system and the content as organised system are exactly equal to each other. It is a process which, as form, has produced itself as matter. Psychology as the account of this self-consciousness must necessarily fulfil all the conditions of true method. Logic, since it necessarily abstracts from the ultimate fact, cannot reach in matter what it points to in form. While its content, if it be true philosophy, must be the whole content of self-consciousness or spirit, its form is only one process within this content, that of thought-conditions, the *Idee.* While the content is the eternal nature of the universe, its form is adequate only to "thinking what God thought and was before the creation of the world," that is, the universe in its unreality, in its abstraction. It is this contradiction between content and form in logic which makes it not philosophic method, but only one moment within that method. No contradiction results as soon as logic is given its proper place *within* the system. The contradiction occurs when, at the same moment that it is said that logic is "abstract," the logical method is still said to be the method of philosophy.

Such contradictions certainly appear to exist, for example, in the philosophy of Hegel. They have been often pointed out, and I shall only summarise them, following for the most part a recent writer.[1] There is no way of getting from logic to the philosophy of nature *logically.* The only way is to fall back upon the fact; "we know from experience" that we have nature as well as the *Idee.* In truth we do not go from logic to nature at all. The movement is a reverse movement. "In reality, the necessity for any such transition is purely factitious, because *the notions never existed otherwise than in nature and spirit.* . . . They were got

[1] Prof. A. Seth, "Hegel: an Exposition and Criticism," MIND 24.

by abstraction from the concrete. . . . We owe, therefore, no apology for a return to the reality from which we took them." In short, it is necessity of fact, a necessity of conscious experience, which takes us from the realm of the *Idee* to the realm of nature, from the sphere of thought-conditions to the sphere of existent relations. "The same is true when we pass to the philosophy of spirit. The general *form* of personality is deducible, but not a living human spirit with its individual thoughts, feelings and actions." This remains "the incomprehensible and inexplicable point in philosophy". And so it does undoubtedly while we regard logic as method of philosophy. But this "inexplicability" is but the express condemnation of the method, not a fact to be contented with. If we go deeper and inquire not how is the transition from logic to the philosophy of nature or to the philosophy of spirit made, but how is any transition whatever possible, we find the same difficulty. It exists only by reason of the presupposed fact. "We cannot in strictness say that the result has been independently proved, because it has been reached in this fashion by the method. It was presupposed *in* the method all along." In a definite case, how is the transition, say from the category of quality to that of quantity, made? It occurs not by virtue of the category of quality in itself, but by virtue of the fact that the whole *Idee* is implicitly contained in the principle of quality, and must manifest itself, which it does by forcing quality, as an inadequate expression of its own nature, into quantity, which expresses its being more fully. And thus the process continues until the *Idee* has manifested itself as the whole organic system, which has expressed explicitly all that which in *Idee* it is. But this movement itself depends on spirit, and on the manifestation of spirit in nature, as already seen. Every purely logical transition therefore occurs at bottom because of fact, *i.e.*, seen in its wholeness it is not a logical transition but a factual. Psychology, as philosophic method, merely starts from this everywhere presupposed fact, and by so doing, for the first time, gives logic its basis and validity.

There can be no escape from this result by saying that after all in the philosophy of spirit, spirit is shown to be the *prius* and condition of the whole, as it undoubtedly is by Hegel himself. This merely brings the contradiction itself into clearer light. For logic, being thus confessedly determined as abstract, is still retained to determine the nature of the concrete. Logic, while it is thus declared to be only one moment of spirit, is still used to determine the

nature of the whole. Thus is revealed the contradiction between form and content involved in the use of logic as the method of philosophy. Spirit is reached by a *logical* process, and the *logical* result is that as fact it is not reached at all. As concrete, it is beyond the reach of any abstract process. Either one must call in the aid of the presupposed but suppressed Fact, and recognise that after all the process has been going on within a further and higher determination; or, failing to see this, must recognise Spirit as only one factor or moment of the logical movement, that is, give up the notion of self-consciousness as subject, and fall back into Spinozistic pantheism. The logical movement, considered by itself, is always balancing in unstable equilibrium between dualism and pantheism. Set up as absolute method, it either recognises the fact, but being unable to comprehend it, has to regard this fact, as foreign element over against it, as the matter of Plato and Aristotle, the thing-in-itself of Kant, and *Anstoss* of Fichte,[1] or endeavours to absorb the Fact as a mere element in its own logical being, and falls into Pantheism.

This is the reason why Hegel, although the very centre of his system is self-conditioned spirit, lends himself so easily to pantheistic treatment. Logic cannot reach, however much it may point to, an actual individual. The gathering up of the universe into the one self-conscious individuality it may assert as *necessary*, it cannot give it as *reality*. It is only as logic contradicts itself and faces back on the constant presupposition of this reality that it can demonstrate what it asserts. Taken purely by itself it must issue in a pantheism where the only real is the *Idee*, and where all its factors and moments, including spirit and nature, are real only at different stages or phases of the *Idee*, but vanish as imperfect ways of looking at things, or as illusions, when we reach the *Idee*. And thus the *Idee* itself vanishes, as an organic system, as a unity which lives through its distinctions, and becomes a dead identity, in no way distinguishable from the substance of Spinoza. Logic set up as absolute method reveals its self-contradiction by destroying itself. In a purely logical method the distinctions, the process must disappear in the final unity, the product. Only a living actual Fact can preserve within its unity that organic system of differences in virtue of which it lives and moves and has

[1] The inability to go from the 'because' of reason to the 'cause' of fact, from logic to reality, when logic is not taken simply as one movement *within* reality, is clearly set forth in the closing chapters of Mr. Bradley's *Principles of Logic*.

its being. It is with this fact, conscious experience in its entirety, that psychology as method begins. It thus brings to clear light of day the presupposition implicit in every philosophy, and thereby affords logic, as well as the philosophy of nature, its basis, ideal and surety. If we have determined the nature of reality, by a process whose content equals its form, we can show the meaning, worth and limits of any one moment of this reality.

The conclusion of the whole matter is that a "being like man," since self-conscious, is an individualised universe, and hence that his nature is the proper material of philosophy, and in its wholeness the only material. Psychology is the science of this nature, and no dualism in it, or in ways of regarding it, is tenable. Whatever the dualism may be, it is only relative, and one which occurs within, not without, psychological experience. Psychology, as the complete systematic account of man, at the same time shows the value and meaning, and affords the condition, of the special sciences, the philosophy of nature and of logic. Or, in a word, if the reality of spirit be the presupposition, the *prius* and the goal, the condition and the end of all reality, the science of spirit must occupy a corresponding position with relation to all science. Surely then, as the Editor of this Journal formerly urged, "the method of psychological approach is not philosophically valueless," and we have "ground for the belief that it has only to be more systematically followed out for the attaining of as great results as have been claimed for another way, while in this way the results are more likely to secure general acceptance," [1]—because, we may add, it simply expresses in a scientific way that which lies at the basis of all that has been otherwise secured.

[1] "Psychology and Philosophy," MIND, Vol. viii. 20.

II.—ON THE STUDY OF ANIMAL INTELLIGENCE.

By Prof. C. Lloyd Morgan.

1. The object of this paper is neither, on the one hand, to add anything to the existing enormous and somewhat chaotic mass of anecdotal fact and fiction, nor, on the other hand, to place on record the details of scientific study, but rather to consider this question: *By what method are we likely to obtain the most valuable scientific results in this department of knowledge?*

2. The subject is sufficiently familiar to enable me to dispense with preliminary illustration. I would refer each individual to his own private repertory, and to the valuable collection published by Mr. G. J. Romanes in his *Animal Intelligence.*

Now with regard to all such anecdotes we may note that, in each case, there are two elements:—

(*a*) Certain actions performed under certain external circumstances. These I will call the *facts.*

(*b*) Certain *inferences* which are drawn from the facts.

The first thing to be done in the scientific study of this question is, therefore, *to disentangle the facts from the inferences.*

Let me give one example, quoted by Mr. Romanes:—

"One of the orangs which recently died at the Ménagerie of the Musée was accustomed, when the dinner hour had come, to open the door of the room where he took his meals, in company with several persons. As he was not sufficiently tall to reach as far as the key of the door, he hung on to a rope, balanced himself, and after a few oscillations very quickly reached the key. His keeper, who was rather worried by so much exactitude, one day took occasion to make three knots in the rope, which, having thus been made too short, no longer permitted the orang-outan to seize the key. The animal, after an ineffectual attempt, *recognising the nature of the obstacle to his desires,* climbed up the rope, placed himself above the knots, and untied all three, in the presence of M. Geoffroy Saint-Hilaire, who related the fact to me." (Leuret, *Anat. Comp. du Syst. Nerv.*, i. 540.)

Here we have the *fact* of the orang untying the knots, and the *inference* that he recognised the nature of the obstacle. Another witness might have inferred that he did it from destructiveness, the desire to pick to pieces what his keeper had done, another that he did it from inquisitiveness, and so on.

First, then, let us disentangle the facts from the infer-

ences. The facts, if recorded exactly as they were observed (eliminating the personal equation so far as is possible), may be put on one side for attentive study as the pure material of science.

3. As to the inferences, let us inquire, What is their nature and their value?

The inferences are of two kinds :—

(*a*) Inferences concerning the nature, cause, and mode of origin of the habits, customs, activities, &c. These are *Objective Inferences.*

(*b*) Inferences concerning the underlying mental states, feelings, motives, &c. These are Subjective, or better (following Clifford), *Ejective Inferences.*

With regard to the objective inferences, they are of undoubted scientific value. Let us by all means draw them with all possible caution and verify them with all possible care.

It is with the ejective inferences that I wish specially to deal. They are clearly psychological in character, and form the basis of the modern science of Comparative Psychology.

4. In all psychological investigation, "the fundamental isolation of the individual mind" is a fact to be steadily borne in remembrance. The only mind with which any one of us is directly acquainted is his own mind. Our conceptions of the world and of man must be framed in terms of our own individual modes of consciousness. For each of us this is our one standard. Each of us lives in his own world which he makes for himself. The world of the melancholy Jaques differs *toto cælo* from the world of the genial Mark Tapley. A great true mind cannot conceive the littlenesses and falsities of small mindlets; nor can a little mind appreciate a great man, but picks out, according to idiosyncrasy, some pretty little trait of character, or some little fault or fad, and for ever harps on that.

I need not dwell upon this point, I take it as generally admitted that for each man his own mind is the one criterion he has in matters mental. My neighbour's mind is not, and never can be, an object to me; it is an *eject*, an image of my own consciousness which I throw out of myself. I hold this term *eject* to be of great scientific value. To say that other minds than my own are ejects is a great advance in clearness and definiteness on the statement that my knowledge of other minds than my own is inferential. It marks clearly the fact that my conception of other minds must be framed in terms of my own mind.

5. But what is our justification for this ejective procedure?

(*a*) *The justification by results.* We habitually act towards our neighbours as if they were conscious beings like ourselves, with results which point to the correctness of our hypothesis.

(*b*) *The justification based on descent.* I have inherited from my ancestors certain brain-structures ; I have also inherited certain mental faculties. I have good reasons for believing that in my brain and nervous system nervous changes (neuroses) run parallel, or are identical with, changes of consciousness (psychoses). I am therefore impelled to believe that my neighbours who have like me inherited a brain, have also like me inherited a mind ; and that in them also there is a parallelism or identity of neuroses and psychoses.

6. The next question that arises is this : How can we frame out of such materials a science of Human Psychology? Since the only mind of which any man knows anything directly is his own, how can we arrive at any principles of general application? Only through Language ; and in the following way. A psychologist records, by means of language, the results at which he arrives by the only method open to him as a psychologist, that is by introspection. His successors receive his results ; and each submits them to the touchstone of his individual consciousness. He submits them to individual subjective verification. Thus the principles pass through many minds, and by each in turn are subjectively verified. Individual peculiarities are gradually eliminated ; and that which was at first but of limited application to the individual subject, becomes of general application to what may be termed the *social eject*. Language makes possible the social eject ; and thus makes possible a science of Human (as opposed to Individual) Psychology.

7. It may be well in passing to draw attention to the necessary limitations of Psychology as a science. The social eject, of which its generalisations are predicated, is in reality a class eject and not an universally human eject. The conclusions of psychology hold good and have a scientific value just so far as, and for that class by which, they have been subjectively verified. But this class is a small one, composed of men whose minds are of a special calibre and who have had special training. Hence we must confess that our psychology holds good for civilised, but not of necessity for uncivilised, folk. It is a psychology of sages, but not of savages.

8. It may, I think, be fairly said that we have a fuller

knowledge of the social eject than of any individual eject. We may know a good deal of human psychology and yet find it exceedingly difficult to learn anything of our neighbours' minds and true characters. We gain the information on which we base our ejective inferences in two ways :—

(*a*) Through Verbal Utterances.

(*b*) Through Conduct.

Even setting aside intentional deception, we are constantly liable to serious errors of interpretation. When I was at school a school-fellow was severely caned. He came to his seat pale and with clenched teeth. "Did it hurt much?" I whispered. "Hurt! who cares for pain?" he replied. "He caned me for a lie I never told." My interpretation had been entirely erroneous. So too in the case of public characters. The saying and doings of Mr. Gladstone are before the world. But how wide is the difference of interpretation by different sections of the community. We say that this is due to prejudice. But what is prejudice but the colour of the subject which inevitably tints every eject that it frames?

9. We may therefore say—

(*a*) That all our knowledge of human minds other than our own is necessarily ejective.

(*b*) That our systems of human psychology hold good only for the philosophers who frame them.

(*c*) That they hold good in a diminishing degree for minds of successively lower development.

(*d*) That our ejective inferences concerning our neighbours' motives, minds, and characters are liable to error.

(*e*) That our ejective inferences concerning the motives, minds, and characters of human beings (such as savages) whose lives are passed under social conditions widely different from our own must of necessity be still more liable to error.

10. We now pass on to the further position—

(*a*) That all our knowledge of animal minds is of necessity ejective.

(*b*) That our ejective inferences concerning their motives, minds, and characters are so largely liable to error as to render the drawing of them unprofitable for purposes of scientific investigation, except in so far as they may aid the objective study of habit and activity.

But first as to the question of their possessing minds at all. Prof. Max Müller tells us (*Chips &c.*, iv. 559) that "according to the strict rules of positive philosophy we

have no right to assert or deny anything with reference to the so-called mind of animals". This is, however, contrary to an almost universal belief. What are the justifications of our ejective procedure?

(*a*) *The justification by results.* We habitually act towards our four-footed friends as if they were conscious beings, with results which point to the correctness of our hypothesis.

(*b*) *The justification based on evolution.* Animals have inherited brain-structures in many respects similar to those possessed by man; and there is no reason for supposing that in them no psychoses run parallel, or are identical, with their neuroses.

11. We are thus justified in believing in the existence of intelligence or mind in animals. But we must steadily bear in mind the fact that it has to be interpreted not only by, but *in terms of*, human consciousness. It is impossible for us to divest ourselves of the complexity of human consciousness.

I cannot here enter at length into the subject of this complexity. All agree that the difference between the civilised human mind and the mind of even the dog or the elephant is probably enormous. And yet it is in terms of this immensely complex mind that our ejective images of brute minds must be framed. The complexity is, no doubt, largely brought about by language. For while the brute has to be contented with the experience he inherits or individually acquires, aided no doubt in some cases by a little judicious maternal teaching; man, through language spoken and written, profits by the experience of his fellows and the recorded results of centuries of ever-widening experience and ever-deepening thought.

It is through language that we live, as I have elsewhere tried to enforce (*Springs of Conduct*, chap. i.), to so large an extent in a world, not of sensations, nor of perceptions, but of complex general conceptions. All that enters the mind of man becomes at once clothed with human conceptions. As Emerson says, "Nature always wears the colours of the spirit". We may call this the "pathetic fallacy"; but we cannot get rid of it. Every conception a man forms is impressed (1) with his humanity; (2) with his personality; and neither of these can he by any means get rid of.

If, therefore, we speak of memory, sympathy, affection, revenge, &c., as mental qualities possessed by animals, we must remember that each of these is stamped with the human image and superscription, and bears our own individual mark.

12. There is also a special point in which our interpretations of the feelings which underlie the activities of animals, are far more liable to error than our interpretations in the case of other men—savages, for example. It is that what may be termed the *ratio of the senses* is so different. All our knowledge of sensible things is acquired through, and built up out of, sensible impressions, however much they may be impressed with our humanity and our personality. A material difference in the ratio of the senses must, we may suppose, make a material difference in the nature of the mental product. Compare, *e.g.*, man with his delicate sense of touch, the deer with its marvellously acute sense of smell, the eagle with its intense vision, the ant with unknown antennary senses. I speak of known objective differences, as observed in, or inferred from, the study of habit; and I submit that, if we can infer anything of the underlying mental states, these known objective differences must be accompanied by unknown psychical differences.

13. The element of pain also presents a point of special difficulty. We have abundant evidence how strong a tendency there is at the present time to credit animals with a sensibility equal to, or greater than, our own in this respect. This seems at first sight justified by the cries of a wounded animal, and the howls of a dog under the horse-whip. But there are many facts which point in an opposite direction. We read, for example, that—

"A post-horse came down on the road with such violence, that the skin and sinews of both the fore fetlock joints were so cut that on its getting up again the bones came through the skin, and the two feet turned up at the back of the legs,—the horse walking upon the ends of its leg bones. The horse was put into a field close by, and the next morning it was found quietly feeding about the field, with the feet and skin forced some distance up the leg-bones; and, where it had been walking about, the holes made in the ground by the leg-bones were three or four inches deep" (G. A. Rowell, *Essay on the Beneficent Distribution of the Sense of Pain*, quoted by E. D. Girdlestone, *Vivisection*, p. 18).

I submit that in this matter we are not in a position to draw inferences sufficiently exact to be of value for scientific purposes.

14. We thus see how profoundly liable to error are our ejective inferences in Animal Psychology. Let us now try and assign to them their true place and value in the study of Animal Intelligence. We clearly cannot afford to neglect them altogether. And yet it is difficult to see how we can hope to frame a science of Comparative Psychology out of such materials. Could we frame a science of Astronomy if the only method of procedure were to observe the stars and

planets in mirrors of varying and unknown curvature? Harder still is the task of framing a science of Comparative Psychology out of our ejective knowledge of the mental faculties of animals, liable as they are to inevitable errors of unknown amount.

What then is our best course in face of this difficulty? I venture to suggest that we should only make use of ejective inferences in so far as they may aid us in the scientific study of the habits and activities of animals. We cannot get on without occasional reference to motives and underlying mental states. But let us use them as sparingly as possible, remembering the inherently untrustworthy nature of our inferences.

I am aware that, if we adopt this course, a vast amount of carefully collected anecdote will have to be excluded as scientific evidence. But will science be the loser? I venture to think not. Take for example the great number of stories illustrative of revenge, jealousy, sense of humour, sense of justice, consciousness of guilt, deceitfulness, cruelty, and so forth in the higher mammalia. There is hardly one of these stories that does not admit of a different interpretation than that given by the narrator. A cat's treatment of a mouse is adduced by a number of witnesses as illustrative of cruelty. But others see in this conduct, not cruelty, but practice and training in an important part of the business of cat-life. Mr. Romanes quotes as typically illustrative of "an idea of caste," the case of Mr. St. John's retriever, which struck up an acquaintance with a rat-catcher and his cur, but at once cut his humble friends, and denied all acquaintance with them, on sight of his master. I, on the other hand, should regard this case as parallel to that which I have noted a hundred times. My dogs would go out with the nurse and children when I was busy or absent; but if I appeared within sight they raced to me. The stronger affection prevailed. A dog is described as "showing a deliberate design of deceiving" because he hobbled about the room as if lame and suffering pain from his foot. I would suggest that there was no *pretence* in this case, but a direct association of ideas between a hobbling gait and more pity and attention than usual. A friend of my own, whose dog was fond of the forbidden pleasures of the drawing-room arm-chair, used to say, when he found the dog standing sheepishly on the rug while the arm-chair was preternaturally warm, that Turk had a strong sense of guilt and always knew when he had done wrong. I fancied that, if we could see into the dog's mind, we should find there, not a

recollection of guilt (and how complex a conception is that of guilt), but an anticipation of what his master euphemistically called 'catching it'.

Let me add one more instance. When the lioness at the Bristol Zoological Gardens lately had cubs, one tottered kitten-fashion to the bars of the cage, and I ventured to stroke its nose. The mother rose and carried the little thing back to the further end of the cage. "I wish," I said the other day to Mr. Nettleship, the animal painter, "you could have caught the look of conscious dignity (I speak anthropomorphically) with which she seemed to say, 'How dare you meddle with my child?'" "I have seen such a look and attitude," the painter replied, "but I attributed it not to pride but to fear."

I say then that, even taking the facts as narrated by the observer, there is, in a great number of cases, more than one probable interpretation. And I now proceed to notice how strong a tendency there is in these cases to see and describe the facts in accordance with the individual interpretation. I do not hint at intentional dishonesty. I speak of scarcely avoidable unconscious bias; the tendency to see what one expects to see, and to fill in missing links which one is certain were there—only we stupidly failed to observe them.

I should therefore advocate the most sparing use of the psychical element consistent with an adequate study of habits and activities. Take one example. I pinch a dog's tail and he bites me. Another dog is chained up and asleep. I hammer his tail with a stick. He flies at me, but cannot reach me for the chain. A week afterwards he bites me in the street. An unmistakable case, some will say, of the dog's harbouring feelings of revenge. What I advocate is that such a case should be recorded simply as one of postponement of action, of deferred response. Instead of the results of the injury occurring at once, they occur after a certain lapse of time. This implies memory, a mental phenomenon; but it implies no complex mental state with distinctly human associations. In a word I would advocate the study of actions and habits, but place the motives (so difficult to get at even in the case of our neighbours) on one side, as at present beyond the reach of scientific treatment.

I am aware that it will be objected that progressive complexity of motive is one of the most important evidences of mental evolution in animals. I know it; and I hold it incumbent on men of science honestly to confess that direct evidence of mental evolution in animals is, in the present state of science, impossible or unattainable. If we can place

on a firm scientific footing the doctrine of the parallelism (or identity) of neuroses and psychoses, and if we can further prove the truth of biological evolution, then the doctrine of mental evolution will be tenable as an inevitable corollary. But to attempt to prove this doctrine by reference to a number of hypothetical motives and complex mental states is in my opinion likely to hinder rather than to advance the acceptance of the doctrine by all careful thinkers.

Let us, therefore, I repeat, stick to the objective study of habits and activities, reflex, instinctive and intelligent, making use of ejective inferences as sparingly as possible.

15. This leads us to reconsider the current definitions of Reflex Action, Instinct and Intelligence, which involve as an essential the element of consciousness.

I quote those given by Mr. Romanes in his *Animal Intelligence* and adhered to in his later *Mental Evolution in Animals*.

"Reflex action is non-mental neuro-muscular adjustment, due to the inherited mechanism of the nervous system, which is formed to respond to particular and often recurring stimuli, by giving rise to particular movements of an adaptive though not of an intentional kind.

"Instinct is reflex action, into which there is imported an element of consciousness. The term is therefore a generic one, comprising all those faculties of mind which are concerned in conscious and adaptive action, antecedent to individual experience, without necessary knowledge of the relation between means employed and end attained, but similarly performed under similar and frequently recurring circumstances by all the individuals of the same species.

"Reason or intelligence is the faculty which is concerned in the intentional adaptation of means to ends. It therefore implies the conscious knowledge of the relation between means employed and ends attained, and may be exercised in adaptation to circumstances novel alike to the experience of the individual and to that of the species" (p. 17).

16. I begin by offering two general suggestions :—

(*a*) Would it not be well to avoid the introduction of the term reflex action into the definition of instinct ? It leads to a somewhat forced interpretation of that term. A reflex action is a direct response to a definite stimulus. Can we describe all instincts—the migratory instincts of birds for example—as reflex actions ?

(*b*) Would it not also be well to avoid the introduction of the term reason as an alternative to intelligence. We seem scarcely to require such an alternative. And the term reason is at once suggestive of a controversy which is not suggested by the term intelligence. I am aware that, if I choose to define reason as the intentional analysis and synthesis of conceptions, that is nothing to Mr. Romanes, who prefers to use the term as synonymous with intelligence. But I am not advocating my own definition (which I only

introduce by way of example) but merely suggesting that the use of the synonym is (1) unnecessary, and (2) suggestive of controversy.

17. I turn now to the special objection to these definitions on the score of their involving consciousness as an essential element. On this head Mr. Romanes to some extent disarms criticism by frankly confessing that the criterion of consciousness is practically inapplicable.

> "No doubt," he says, "it is often difficult, or even impossible, to decide whether a given action implies the presence of the mind-element—*i.e.*, conscious as distinguished from unconscious adaptation; but this is altogether a separate matter, and has nothing to do with the question of defining instinct in a manner which shall be formally exclusive, on the one hand of reflex action, and on the other of reason" (*An. Int.*, pp. 11-12).

The facts of the case are these. The more frequently an action is performed the more automatic (instinctive, as we often say) does it become, the more does it tend to pass into stereotyped organic action. Those actions which have been performed, not only by the individual but by a long line of ancestors, whose organisation he inherits, are, or very soon become, completely, or in a very high degree, automatic. On the other hand, those actions which the individual has performed but seldom are effected with difficulty, owing to the imperfect connexions established in the nervous mechanism.

And this is the implication. Since the intelligent acts of the individual have a tendency to become automatic and unconscious, and since among human beings those actions which are performed in virtue of the possession of an inherited organisation are, or have a tendency to become, automatic and unconscious, does it not seem in a high degree probable that some of the instinctive actions of the lower animals, performed at once, and without any process of learning by the individual, in virtue of the possession of an inherited organisation perfectly adapted to perform the necessary response—does it not seem highly probable, I ask, that these instinctive actions, so perfectly automatic, are also unconscious? May not lapsed intelligence carry with it, in some cases at least, lapsed consciousness? And does it not seem unwise, in view of these facts, and in view of the difficulty of applying our complex human consciousness to the problem of mind in the lower animals, to define instinct as reflex action into which is imported the element of consciousness?

While admitting therefore that Mr. Romanes's distinctions are absolute in theory, and agreeing with him that they are

inapplicable in practice, I venture to contend that the practical objections outweigh the theoretical advantages, and that (in accordance with the principle above maintained, that the ejective element should be as far as possible eliminated) we shall do well to endeavour to frame definitions in which the element of consciousness shall be disregarded.

18. I therefore propose the following definitions as sufficient for practical purposes :—

Intelligent actions are those which are performed by the individual, in virtue of his individuality, in special adaptation to special circumstances.

Instinctive actions are those which are performed, through the influence of inherited habit, by the individual in common with all the members of the same more or less restricted group, in adaptation to certain oft-recurring circumstances.

Reflex actions are those which are of the nature of organic responses to more or less definite stimuli, and which involve rather the organs of an organism than the organism as a whole.

Such difficulties as may arise in the application of these definitions are objective and surmountable, not ejective, and therefore, in my opinion, insurmountable.

19. Since it may be objected by some that, by eliminating, so far as is practicable, the ejective element in the study of Animal Intelligence, we rob that branch of science of all vitality, I will here set down some of the problems that offer themselves as subjects of research.

(*a*) The origin and mode of development of intelligent, that is, specially adaptive actions and individual habits; the number of intermediate steps between prompting stimulus and answering response and the amount of their complexity; their careful study in the light of the principles of heredity and evolution; the influence that they have had in the evolution of any given species.

(*b*) The origin and mode of development of instinctive habits; the age at which they manifest themselves; if there is any learning in the case; their occasional liability to error; how far they are due to lapsed intelligence; how far to natural selection; how far to the direct influence of surrounding conditions.

(*c*) The physiology of organisms, that is, the function of each organism in the economy of nature; the relation of the habits of this organism to that organism and to all other organisms.

(*d*) The nature, limits, and ratio of the senses; their

influence in determining the habits and activities of the organism; the mode of their evolution and the influence they have had on the evolution of the organisms which possess them.

(*c*) The study of the organic mechanism, nervous and other, by means of which the habits and activities are carried out.

20. In the study of Animal Intelligence, therefore, I would counsel—

(*a*) The separation of fact from inference.

(*b*) The distinguishing between objective and ejective inference.

(*c*) The elimination, so far as is practicable, of the ejective element.

In accordance with these views I would suggest objective definitions of intelligent, instinctive, and reflex actions, fully believing that with this limitation there remains a wide and extensive field for scientific research.

In conclusion, I may be allowed to state clearly that I by no means deny the existence of animal mind, consciousness, feeling, emotion. I do nothing of the sort. I believe that in general we are justified in supposing that since the dawn of consciousness something analogous to what we know in ourselves as pleasure has been associated with the performance of right actions, and something analogous to what we know in ourselves as pain has been gradually associated with the performance of wrong actions—using the terms right and wrong in their very broadest material sense as 'conducive to welfare' or the reverse. I am, moreover, fully persuaded that my four-footed friends have feelings and emotions distantly akin to and dimly foreshadowing my own. I heartily wish I could know their true nature. But wishing will not make science. It is useless and irrational to fret against the inevitable limitations of our human faculties. The first step towards knowledge is to ascertain clearly what we can know and what we cannot know. This is a step which a certain class of metaphysicians on the one hand, and a certain set of folk who trust entirely to common sense on the other, have not yet taken or will not take. But it is an essential step; and one which no man of science can afford to neglect. The study of Animal Intelligence is scarcely out of the metaphysical stage. I would do my best to raise it into the scientific stage.

III.—CONCEIVABILITY AND THE INFINITE.

By Professor George S. Fullerton.

In an examination of the mathematical antinomies printed in the *Journal of Speculative Philosophy* for January, 1884, I found a solution of those much-mooted problems in the elimination of a contradictory element—the quantitative—which had been inadvertently introduced into our notion of infinity. It was shown that the antinomies arise from the attempt to know the infinite as a whole; that the word 'whole' has necessary reference to limits beyond which there is no more of any object; and that, consequently, the attempt to know all of an infinite is simply an attempt to find the limits of the limitless. It follows, of course, that the infinite is not to be known by a successive synthesis of parts, *i.e.*, by exhausting a quantity; but that, if it is to be known at all, it must be known in some other way. The mathematical antinomies of Kant and Hamilton, reasserted more lately by Mr. Herbert Spencer, when regarded from this stand-point, are disposed of very satisfactorily, and simply disappear; but the question may still be raised whether our notion of infinity does not disappear with them, that is, whether proving the contradictory nature of the quantitative infinite does not simply prove that we have no notion of the infinite whatever, and that our supposed discussions as to infinites are really concerned only with more or less disguised indefinites. This position is not a very sensible one to take, to be sure: for, when a man says of any given object that it is not infinite but indefinite, we usually expect him to know what 'infinite' means, which would intimate that he brought the conception of the infinite before his mind—in some way thought it; and the negative quality of his proposition would imply a true distinction between the conception thus thought and that of the indefinite. But the frequency with which this position is taken, and the confidence with which it is asserted that, the quantitative infinite being proved self-contradictory and the qualitative being inconceivable, we can have no knowledge of the infinite at all, make it desirable that the exact elements of the conception be carefully separated and exhibited, and that it be shown—as it can be—that the conception of an infinite is qualitative, is perfectly conceivable, and that the

act by which such a conception is formed is, in fact, one of our most common mental operations. Those who have maintained the existence of the qualitative infinite as a real conception have been neither few nor far between; but they have not been able to make their doctrine clear to others, nor obtain for it general vogue, partly because they have usually failed to keep the notion free from admixture with other elements quite foreign to it, and partly because they have not made a careful analysis of the actual psychical elements present in the conception, and shown the essential identity of thinking it with other acts which receive general recognition. The question is simply one of psychological analysis, and it is quite possible to discuss it clearly and simply, remembering that our aim is only to find out what is in mind when we habitually use a certain very common word.

The word 'infinite' means endless; and surely it will not be denied that we make a mental distinction between an object thought as having no end at all and one thought as having an end at an indefinite distance. We at least know what we mean by the word 'endless'; and if the word presents any meaning to the mind at all, that to which it is applied must present itself as really distinguished from the merely indefinite. If then, when we speak of the infinite, we mean to say that it is really endless, we cannot know it by a continued addition of parts which may serve to bring us to a limit at some indefinite distance—there is no such limit, definite or indefinite, by the very conditions of the problem; but that which is in mind when we think an infinite must be distinctly different from what is in mind when we add to our previous thought the notion of a limit, and think the indefinite.

Now, when we analyse the mental state in which we have reference to an infinite,—let us say, in this case, an infinite straight line,—we find the following elements: in the first place, there are present the usual qualities of a line, for the fact of our conceiving it as without limits need not alter any of its usual qualities, any more than the fact of our being unable to see the ends of a telegraph-wire need force us to deny that it is a wire of a certain diameter, material or colour; and, in the second place, there is present the notion that, however far we may go in thought, we shall find a continuation of the line; in other words, there is the notion of *unlimited possibility of quantity*—a notion which, be it marked, is strictly qualitative. Quantity in general, not this or that determined quantity, is as much a qualitative

notion as colour or form; and in thus defining the second element present in our notion of an infinite line, I have used the word advisedly to bring out what is a distinctive characteristic of the conception. The word infinite does not denote *a quantity*, but it has reference to quantity; and it cannot, in accordance with its derivation and true signification, be rightly applied to what is incapable of being quantitatively considered. My objection to the usage of the word 'infinite' by some who yet recognise that the conception for which it stands is qualitative, is that they overlook the distinctive characteristic of this conception, which marks it out from other qualitative conceptions; that is, its necessary reference to quantity, though not itself quantitative. If, by that process of abstraction which takes place when I compare objects similar in some of their qualities, I fix my attention upon the other qualities of any finite line, disregarding its length and leaving out of view for the time being its limits, my conception is qualitative; and yet it is not the conception of an infinite line. In this case, so far from affirming infinite length, I do not think of length at all. But in the case of an infinite line, I add to the former complex of qualities a new quality, possibility of quantity in general, not this or that quantity. When I try to bring before my mind the notion of an infinite line, what I am conscious of is this: I represent in imagination a line of indefinite length, and then run mentally along the line representing additional line-portions—which proceeding would give so far, of course, only the finite; but what makes my conception distinctively of the infinite is, that, in this progression, I proceed to fix my attention upon the progression itself, and eliminate by abstraction the limits to which such a progression is subject. I do not, be it marked, merely fix my attention upon other qualities of a line, abstracting from the notion of limits; but I have in mind a progression, a possibility of ever-increasing quantity, and I abstract from the limits of this progression. The two conceptions are distinctly different, although both are qualitative, and they should not be confounded with one another.

The question, therefore, whether I can conceive an infinite line is identical with the question whether I can mentally grasp the usual qualities of a line and the notion of a continuous increase in length, without including the notion of limits: and it will be seen that this question is simply one of the phases of the broader question which is concerned with the possibility of the concept or general notion. A certain complex of qualities being necessary to the existence

of an object as apprehended in nature, or to its subjective existence as represented in the imagination, is there any mental operation by which we may grasp some of these qualities to the exclusion of others, and convey to our own and other minds by the use of the word which stands for this new complex a distinct meaning?

There have been held with reference to this problem, as is well known, three opinions: the doctrine of the Realists, that general ideas have corresponding to them a counterpart reality—a doctrine which may be passed over as now abandoned, though its influence makes itself felt in many directions; the doctrine of the Conceptualists, that, although general ideas cannot exist in nature nor be represented in imagination, yet they have a true mental existence and are the result of a distinct mental operation; and the doctrine of the Nominalists, that the only generality that has a separate existence subjective or objective is the name, which may be applied indifferently to many similar objects.

The Conceptualist may hold that it is possible, unless the words include repugnant elements, to conceive an infinite line,—that is, to grasp in mind a certain complex of psychic elements which are yet incapable of being pictured in the imagination as an infinite line. To think, in the sense of to form such a concept, is to him something other than to imagine. What cannot be imagined may yet be thought. The word 'man', which we define as comprehending the elements of rationality and animality, does not, he claims, in the least include all those other qualities which must be combined with these two before we can picture in the imagination or know as existing any given man. If we select the two qualities in which all the objects of a class resemble each other, and give to these two a special name, have we not brought them into consciousness in some way in which we have not the other qualities possessed by the objects?

When we turn to the Nominalist, it would not be hard to show that, although his doctrines, if taken in strictness, would deny the possibility of the mental operation by which we arrive at the concept, and consequently of the operation by which we may grasp in thought the various elements implied in the expression 'an infinite line,' yet one may find in his teachings by implication ample justification for assuming its possible and actual existence. I will take some extracts from four well-known Nominalists, to show how palpable is the fact stated, and I will first quote from

Berkeley, Locke's great opponent on the subject of the abstract idea:

"Whether others have this wonderful faculty of abstracting their ideas, they best can tell: for myself, I find indeed I have indeed a faculty of imagining, or representing to myself, the ideas of those particular things I have perceived, and of variously compounding and dividing them. I can imagine a man with two heads, or the upper parts of a man joined to the body of a horse. I can consider the hand, the eye, the nose, each by itself abstracted or separated from the rest of the body. But then whatever hand or eye I imagine, it must have some particular shape and colour. Likewise the idea of man that I frame to myself must be either of a white, or a black, or a tawny, a straight or a crooked, a tall or a low, or a middle-sized man. I cannot by any effort of thought conceive the abstract idea above described. And it is equally impossible for me to form the abstract idea of motion distinct from the body moving, and which is neither swift nor slow, curvilinear nor rectilinear; and the like may be said of all other abstract general ideas whatsoever. To be plain, I own myself able to abstract in one sense, as when I consider some particular parts or qualities separated from others, with which though they are united in some object, yet it is possible they may really exist without them. But I deny that I can abstract from one another, or conceive separately, those qualities which it is impossible should exist so separated; or that I can frame a general notion, by abstracting from particulars in the manner aforesaid—which last are the two proper acceptations of *abstraction*. And there is ground to think most men will acknowledge themselves to be in my case. The generality of men which are simple and illiterate never pretend to *abstract notions*. It is said they are difficult, and not to be attained without pains and study; we may therefore reasonably conclude that, if such there be, they are confined only to the learned." (*Principles of Human Knowledge*, Introd., § 10.)

So much for Berkeley's position with respect to the abstract notion. But mark the concessions which he is forced to make in a later section (16):

"But here it will be demanded, how we can know any proposition to be true of all particular triangles, except we have first seen it demonstrated of the abstract idea of a triangle which equally agrees to all? For, because a property may be demonstrated to agree to some one particular triangle, it will not thence follow that it equally belongs to any other triangle, which in all respects is not the same with it. For example, having demonstrated that the three angles of an isosceles rectangular triangle are equal to two right ones, I cannot therefore conclude this affection agrees to all other triangles which have neither a right angle nor two equal sides. It seems therefore that, to be certain this proposition is universally true, we must either make a particular demonstration for every particular triangle, which is impossible, or once for all demonstrate it of the abstract idea of a triangle, in which all the particulars do indifferently partake and by which they are all equally represented. To which I answer, that, though the idea I have in view whilst I make the demonstration be, for instance, that of an isosceles rectangular triangle whose sides are of a determinate length, I may nevertheless be certain it extends to all other rectilinear triangles, of what sort or bigness soever. And that, because neither the right angle, nor the equality, nor determinate length of the sides are at all concerned in the demonstration. It is true the diagram I have in view includes all these particulars, but then there is not the least mention made of them in

the proof of the proposition. It is not said the three angles are equal to two right ones, because one of them is a right angle, or because the sides comprehending it are of the same length. Which sufficiently shows that the right angle might have been oblique, and the sides unequal, and for all that the demonstration have held good. And for this reason it is that I conclude that to be true of any obliquangular or scalenon which I had demonstrated of a particular right-angled equi-crural triangle, and not because I demonstrated the proposition of the abstract idea of a triangle. And here it must be acknowledged that a man may consider a figure merely as triangular, without attending to the particular qualities of the angles, or relations of the sides. So far he may abstract; but this will never prove that he can frame an abstract, general, inconsistent idea of a triangle. In like manner we may consider Peter so far forth as man, or so far forth as animal, without framing the fore-mentioned abstract idea, either of man or of animal, inasmuch as all that is perceived is not considered."

In the former of these two extracts Berkeley has declared himself able to abstract only so far that he can represent to himself in imagination what can exist separately in nature. He denies that he can conceive separately those qualities which it is impossible should exist separately. But when he supposes an objector to ask, How is it possible for something, proved to be true of a particular triangle, to be known to be true of all triangles? he answers that it is seen that neither the right angle, nor the equality, nor the determinate length of the sides is at all concerned in the demonstration. In other words, he admits that, so far as that demonstration goes, we have to do only with those elements in which all triangles agree. And if we can reason about certain elements to the exclusion of others; if we can see that certain objects are alike in certain elements and unlike in others; if we can give a name to objects simply to express the presence of these same elements, however the elements accompanying them may vary,—then surely the elements of the concept have been before the mind in some way in which the others have not, and have been grasped together.

Berkeley frankly admits as much in the concluding sentences of the latter extract,—sentences which were added twenty-four years after the first publication of the essay, when mature reflection, we may suppose, had brought him to see that on his previous principles, strictly held, all comparison of objects differing in any of their qualities would be impossible. If we can consider a figure merely as triangular, without attending to the particular qualities of the angles, or relations of the sides, then we can in some sort divorce the elements included under the general word 'triangle' from the accompanying elements, and consider

them separately. In those last few sentences Berkeley admits all that a reasonable Conceptualist would care to prove, and the words 'abstract idea,' as there used, are equivalent to object of the imagination—a something which is not implied in the formation of the abstract or general notion.

Every one, Nominalist or Conceptualist, must acknowledge that we can compare objects, and recognise them as like or unlike:—not merely like or unlike as wholes, but in this or that element; like in length, unlike in breadth; like in colour, unlike in shape. Now no one claims that we can call into clear consciousness the element of length alone, and picture it divorced of breadth and colour; but when we recognise two objects as like in length and unlike in breadth, the elements must in some way have been present in mind separately, so as to be recognised separately as length and breadth. If one object that what is present in consciousness must *ipso facto* be perceived, and that we cannot perceive length as a factor by itself, nor recall in memory any perception of such a factor during the act of comparison; I answer that what is in consciousness is not necessarily in a clear analytic consciousness; and that we may by a process of deductive reasoning be sure that certain elements are present as factors in a given mental state, while we are yet quite unable to call these elements into a clear analytic consciousness, separated from certain other elements bound to them by long association and habit. As an instance I refer to vision. That distance is itself unperceivable by sight we must admit. That judgments of distance are a result of reasoning from an observed constant connexion of certain visual with certain other elements may be satisfactorily established when the above proposition is admitted. But to call into clear consciousness by itself the purely visual sensation, which forms the basis of the judgment, is altogether impossible. That it is a factor, and an important factor, in the complex consciousness which we have at the time, we admit: and yet its presence, as a single and distinct element, is capable of being only deductively known. Notice a further point which is worthy of remark. If we vary the purely visual element, allowing all other elements to remain the same, that is, if we change the *colour* of the object, but do not change in any respect the form or size of the image on the retina, a difference is at once remarked, and the change of colour recognised. But the difference is not recognised as a difference between two purely visual sensations, when the result of the actual comparison comes out into clear

consciousness, but as a difference in one of their elements between two complexes or wholes. That is to say, the two purely visual sensations cannot be brought into clear consciousness and recognised as compared with each other alone, but only come out clearly as combined with certain other elements in complexes or wholes;—it is the presence of two or more such wholes, which we wish to compare, that primarily conditions the narrowing of the attention to the particular similar or dissimilar elements; and it is from the presence of two or more such wholes, of which we are conscious as compared, that we are led to infer the presence of single psychic elements in a dim unanalytic consciousness, as a necessary condition to the possibility of all ordinary comparison and classification.

When I form the concept of length, by comparing two objects in length and affirming agreement, and then recognising as a distinct element that in which they agree, I certainly do not compare the objects simply as wholes, but compare the *lengths;* and I must certainly have had these elements in mind in some way in which I had not the other elements which go to make up the object. Whether I can call into clear consciousness the psychic elements present during the operation or not, it does not much matter; I evidently have specialised, selected one element from among others, and compared length with length as element with element. The name which we give to such resemblances is the name representing a general or abstract idea.

Hume warmly applauds the position taken by Berkeley with reference to the abstract idea, calling it "one of the greatest and most valuable discoveries that have been made of late years in the republic of letters," and he undertakes to confirm it with proofs that he hopes will put it "beyond all doubt and controversy". For the same purpose for which I have quoted the two extracts from Berkeley, I will quote the last part of the section which he devotes to the establishment of this position:

"It is certain that the mind would never have dreamed of distinguishing a figure from the body figured, as being in reality neither distinguishable, nor different, nor separable, did it not observe, that even in this simplicity there might be contained many different resemblances and relations. Thus, when a globe of white marble is presented, we receive only the impression of a white colour disposed in a certain form, nor are we able to separate and distinguish the colour from the form. But, observing afterwards a globe of black marble and a cube of white and comparing them with our former object, we find two separate resemblances in what formerly seemed, and really is, perfectly inseparable. After a little more practice of this kind, we begin to distinguish the figure from the colour by a *distinction of reason;* that is, we consider the figure and colour together, since they are,

in effect, the same and undistinguishable ; but still view them in different aspects, according to the resemblances of which they are susceptible. When we would consider only the figure of the globe of white marble, we form in reality an idea both of the figure and colour, but tacitly carry our eye to its resemblance with the globe of black marble : and in the same manner, when we would consider its colour only, we turn our view to its resemblance with the cube of white marble. By this means we accompany our ideas with a kind of reflection, of which custom renders us, in a great measure, insensible. A person who desires us to consider the figure of a globe of white marble without thinking on its colour, desires an impossibility ; but his meaning is, that we should consider the colour and figure together, but still keep in our eye the resemblance to the globe of black marble, or that to any other globe of whatever colour or substance." (*Treatise of Human Nature*, i. 7.)

It is not hard to see that we cannot distinguish in a body figured "many different resemblances and relations," without bringing the resembling elements in some sense singly into thought : if the mental complex which we call an object were an indissoluble unit, we might affirm a general likeness or unlikeness between it and other objects, but we could not affirm that the resemblance lay in the figure, or colour. If, as Hume asserts, the figure and colour "are, in effect, the same and undistinguishable," why do we find the one susceptible of the one class of resemblances, and the other of another class? If we take the words literally, should not the figure, viewed in one aspect, be susceptible of resemblances of figure, and viewed in another, of colour? And similarly, if the colour is one with the figure—the same and undistinguishable,—should not the colour, viewed in one aspect, be susceptible of resemblances of colour, and viewed in another, of figure? Hume's admission that the two elements are known as giving different resemblances in itself refutes his previous assertion that they are undistinguishable. If colour be recognised as like colour, and figure like figure, the two qualities are distinguished as different, and are in reality separately grasped.

I will now take a passage from J. S. Mill's *Examination of Sir William Hamilton's Philosophy* (c. xvii.) :

"The formation, therefore, of a Concept, does not consist in separating the attributes which are said to compose it, from all other attributes of the same object, and enabling us to conceive those attributes, disjoined from any others. We neither conceive them, nor think them, nor cognise them in any way as a thing apart, but solely as forming, in combination with numerous other attributes, the idea of an individual object. But, though thinking them only as part of a larger agglomeration, we have the power of fixing our attention on them, to the neglect of the other attributes with which we think them combined. While the concentration of attention actually lasts, if it is sufficiently intense, we may be temporarily unconscious of any of the other attributes, and may really, for a brief interval, have nothing present to our mind but the attributes constituent to the

concept. In general, however, the attention is not so completely exclusive as this; it leaves room in consciousness for other elements of the concrete idea; though of these the consciousness is faint, in proportion to the energy of the concentrative effort, and the moment the attention relaxes, if the same concrete idea continues to be contemplated, its other constituents come out into consciousness. General concepts, therefore, we have, properly speaking, none; we have only complex ideas of objects in the concrete: but we are able to attend exclusively to certain parts of the concrete idea; and, by that exclusive attention, we enable those parts to determine exclusively the course of our thoughts as subsequently called up by association; and are in a condition to carry on a train of meditation or reasoning relating to those parts only, exactly as if we were able to conceive them separately from the rest."

This passage is so clearly in harmony with the views of the Conceptualist, as I have portrayed them, that it seems scarcely necessary to comment upon it. But I cannot resist the temptation to delay for a moment over an inconsistency into which Mill was forced by his attempt to recognise, though a Nominalist, a truth which the Nominalist pure and simple cannot recognise. The formation of a concept, he insists, does not consist "in separating the attributes said to compose it, from all other attributes of the same object, and enabling us to conceive those attributes, disjoined from any others": this position he emphasises by the further affirmation, that "we neither conceive them, nor think them, nor cognise them in any way as a thing apart, but solely as forming, in combination with numerous other attributes, the idea of an individual object". These sentences are certainly unequivocal;—they contain an emphatic assertion of the Nominalistic doctrine. But side by side with such statements we find it asserted that we may fix the attention upon the attributes constituent of the concept, to the neglect of the other attributes of the object, and that, while the concentration of attention actually lasts, if it is sufficiently intense, "we may be temporarily unconscious of any of the other attributes, and may really, for a brief interval, have nothing present to our mind but the attributes constituent of the concept". Surely, if the only elements before the mind are those constituent of the concept; if we may be conscious of these, even for a brief interval, and conscious of these alone;—surely in such a case we conceive, or think, or in some way cognise the attributes forming the concept as separate and apart, and *not*, for the time being, in combination with numerous other attributes. Mill goes even further in the above admission than most of us would care to follow him. In speaking as he does of the process, and not distinguishing between the imagining of an object and the knowing of one or more of its isolated qualities, he

clearly intimates, although he does not distinctly say, that the elements before the mind during the formation or use of a concept are in consciousness in the same way in which the whole complex or object may be in consciousness. But, to recur to the before-mentioned analogy of the purely visual element in vision, we know that, although we may so concentrate the attention as to distinguish the blue colour of one object from the red colour of another, and so must have compared in some rapid manner these purely visual sensations, yet when we try to call into clear consciousness the mere sensation of colour, we cannot do it without imagining the colour as on a surface, or as combined with psychic elements not purely visual. That is to say, the single and separate sensations cannot be called into a clear consciousness, and their presence when we use the concept, or have occasion to compare them singly with each other, is something quite distinct and different from the presence in consciousness of the complex which is knowable as an object. And such would seem also to be the case wherever we call before the mind single psychic elements which can yet not be represented alone in the imagination. The element must have been grasped separately, but it can be brought into a clear consciousness only in combination.

If now we recognise in each of two objects presented to us a certain quality or complex of qualities upon which we can fix the attention; and if we discover that, so far as these qualities go, there is an undistinguishable similarity in the objects, the differences arising altogether from other qualities; why may we not call the complex of qualities in point a *general notion* or *general idea?* Of course, whether we should call the qualities, in the two instances, the *same*, even if undistinguishably similar, would depend on our use of the word 'same,' and our ideas of what constitutes sameness or identity: but I can see no objection to using the words 'general notion' to indicate the fact that a certain complex of qualities is to be found in many different combinations with other qualities. Should it still be insisted that, since we cannot bring separately into clear consciousness these elements of objects known, we have no reason to assume that we actually conceive them or think them separately, I will not quarrel over the use of a word, but will simply state that I find the word 'conceive' a useful one to express that concentration of the attention upon certain qualities of an object, which takes place when objects are compared, and which eliminates from consciousness, or at least subordinates, all other qualities of the objects: and I will so use the word,

applying it to an operation the existence of which Mill has in so many words admitted.

The last author whom I will quote is Prof. Bain : I will take some passages from the chapter on Abstraction in his *Mental and Moral Science* pp. 176-8, where he supports the Nominalistic doctrine :

"We are able to attend to the points of agreement of resembling things, and to neglect the points of difference ; as when we think of the light of luminous bodies, or the roundness of round bodies. This power is named Abstraction.

"It is a fact that we can direct our attention, or our thoughts, to the points of agreement of bodies that agree. We can think of the light of the heavenly bodies, and make assertions, and draw inferences respecting it. So we can think of the roundness of spherical bodies, and discard the consideration of their colour and size. In such an object as the full moon, we can concentrate our regards upon its luminous character, wherein it agrees with one class of objects ; or upon its figure, wherein it agrees with another class of objects. We can think of the taste of a strawberry, either as agreeing with other tastes, or as agreeing with pleasures generally. . . . .

"Every concrete thing falls into as many classes as it has attributes ; to refer it to one of these classes, and to think of the corresponding attribute, are one mental operation.

"When a concrete thing before the view recalls others agreeing in a certain point, our attention is awake upon that point ; when the moon recalls other luminous bodies, we are thinking of its light ; when it recalls other round bodies, we are thinking of its roundness. The two operations are not different but identical.

"On this supposition, to abstract, or to think of a property in the abstract, is to classify under some one head. To abstract the property of transparency from water, is to recall, at the instance of water, window glass, crystal, air, &c. ; to abstract its liquidity, is to recall milk, vinegar, melted butter, mercury, &c. ; to abstract its weight, is to bring it into comparison with other kinds of gravitating matter.

"Hence abstraction does not properly consist in the mental separation of one property of a thing from the other properties—as in thinking of the roundness of the moon apart from its luminosity and apparent magnitude. Such a separation is impracticable ; no one can think of a circle without colour and a definite size. All the purposes of the abstract idea are served by conceiving a concrete thing in company with others resembling it in the attribute in question ; and by affirming nothing, of the one concrete, but what is true of all those others. . . . .

"In abstract reasoning, therefore, we are not so much engaged with any single thing, as with a class of things. When we are discussing government, we commonly have in view a number of governments, alternately thought of ; if we notice in any one government a certain feature, we run over the rest in our mind, to see if the same feature is present in all. There is no such thing as an idea of government in the abstract ; there is only possible a comparison of governments in the concrete ; the abstraction is the likeness or community of the individuals."

It will be noticed that throughout this extract Prof. Bain does not distinguish between those elements of an act which come out into a clear consciousness, and the elements which do not so come out but are nevertheless necessary to the

possibility of the operation. When he says, for instance, that there is no such thing as the idea of government in the abstract, but that we can compare governments in the concrete and recognise the likeness of the individuals, it is perfectly true that all that we are clearly conscious of is several individual objects and a similarity between them; but, when we come to analyse this recognition of a similarity, it will be seen that the elements which are known as similar are quite incapable, by themselves, of forming a concrete object, and yet they are distinguished by the mind from the dissimilar elements: they must, therefore, have been in some sort grasped separately, though they cannot separately be brought into a clear consciousness. Whether, during this rapid act of concentration and comparison, the other elements which go to form the object actually disappear from consciousness, or are only dimly perceived, as Mill suggests that they are in most cases, does not affect the peculiar character of the act. When I compare in height two trees, which I see side by side in the distant landscape before me, I am perhaps conscious of several objects in their immediate vicinity in a dim and indefinite way, but the two objects compared are present in consciousness in a manner very different, and are grasped, so to speak, separately. And when I fix my attention upon the height of the two trees, finding them similar or dissimilar in this one element, we have every reason to suppose that something very analogous takes place, and that this one element is present in consciousness in some way quite different from the others, and is grasped separately, for the time being. Were it not so, we could not say that the trees were alike in height, but different in contour or colour of foliage. We are justified in assuming that, when we recognise two trees as alike in height but not in colour, we have compared height with height, and colour with colour, and not merely compared the one object as an undistinguishable complex of qualities with another object as another undistinguishable complex.

As I have before said, the name which we choose to apply to this operation is of little consequence: the point to be chiefly borne in mind is, that we have here an operation differing from ordinary imagination, in that it takes cognisance of certain psychic elements which can yet not be called into clear consciousness by themselves as a mental picture. Whether the two operations completely differ in their ultimate nature is another question. When the Conceptualist asserts that, though he cannot imagine length apart from breadth or colour, yet he can conceive or think it, he

merely marks by a distinct name his recognition of an operation different from imagination, and which is implied in all comparison of objects. What may be the peculiar psychic elements present in the operation he does not necessarily know, nor express when he uses the name.[1]

Arguing from the analogy of the visual element in vision, one might conclude that what is actually present in consciousness in comparing lengths, for example, is the distinctive element or sensation which is present in combination with other elements (and consequently in a modified form) in all our experience of extended objects, and which, in the act of comparing objects, may be brought into sufficient prominence to be considered, for the moment, alone, and alone compared with its kind. When we make the attempt to call it into clear consciousness, the element appears as modified by, and in combination with, others; but it is not improbable that, in the act of comparison, it obtains in its pure state sufficient recognition to make possible a comparison with a similar element also in its pure state. However, whether we can describe just what is present during the act or not, we may be sure that a mental separation of two objects into their elements is necessary in order to a recognition of them as in some points similar and in some dissimilar.

In view of the foregoing, I would, therefore, regard the fact as beyond all doubt, that there are mental operations differing distinctly from imagination, in that certain elements, of which we have usually, as single elements, no analytic consciousness but which are merged with others into an indivisible whole, are brought for the time being into such prominence as to be compared individually with similar elements and recognised as like or unlike. We cannot hold these up to inspection as single elements, but from the fact of the comparison, about which there can be no doubt, we may be very sure that the operation in question has taken place.

Now when we return to the particular conception that we have been considering,—that of an infinite line,—we find it

[1] Kant seems to have despaired of the possibility of ever making this analysis :—"Dieser Schematismus unseres Verstandes, in Ansehung der Erscheinungen und ihrer blossen Form, ist eine verborgene Kunst in den Tiefen der menschlichen Seele, deren wahre Handgriffe wir der Natur schwerlich jemals abrathen und sie unverdeckt vor Augen legen werden" (*Kritik d. reinen Vernunft:* "Von dem Schematismus der reinen Verstandesbegriffe") ;—yet Kant did not doubt the existence of the operation.

merely a concrete instance of this general truth which all must either explicitly or implicitly admit. As I have said, the elements constituent of this conception are the usual qualitative attributes of a line and the notion of continued progression, of unlimited possibility of quantity. These elements may be brought into mind, to the exclusion of the notion of limits, which are yet present in all imagined lines and in all intuitions of lines in nature, by employing the usual process of forming a concept. When I think of an infinite line, I first represent to myself a line of some indefinite length, and I then run mentally along this line, adding new portions; that is, I successively think several increasing lengths: I have now before my mind what Hume and Prof. Bain insist upon and make so prominent in forming the concept, several concrete objects similar in some of their qualities. Having mentally passed over several of these line-portions, I then fix my attention, not upon that in which they differ, the quantitative element, but upon that in which they agree, the usual qualitative attributes of a line, and the element of increase or progression, which is common to all. This is precisely what I do in forming the concept man or animal. The concrete objects are compared, their differences eliminated by abstraction, and their likenesses grasped together under a distinctive name. Or I may select one of the qualities in which objects agree and consider it alone, as when I compare men, of the same age and colour, only as to their height, and pronounce them equal in height. If this be possible, if, in using the word man, I can distinguish between that in which men agree and that in which they disagree, and if it be further possible for me to fix my attention upon one of the points in which they agree to the exclusion of others; then it is possible to abstract from the particular quantities or amounts of several lines present in imagination, and think only of a constant increase or progression. That both the one and the other are not only possible but actual operations, is proved beyond possibility of doubt by our constant comparison of objects, our use of general language, our frequent use of the word 'infinite,' to indicate what is clearly distinguished, readily defined, and conveys a distinct meaning to speaker and hearer.[1]

[1] It might be objected that the case cited is not fairly analogous, on the ground that an end is not an actual constituent element of an object, which may exist and be contemplated apart from the other elements. But the sensation of progression in passing the eye along a line is very clearly different from the sensation of arrested motion, of an end to the intuition, and there is no reason why these two sensations should not be separated by

To the objection which may be made to my classing the notion of this or that particular infinite line with the concept or general notion, on the ground that the individual or the intuition is something quite different and distinct from the concept, I answer that the notion of any particular infinite line is not a complete intuition, in that one of the elements of the intuition is eliminated by abstraction; and that when, in the formation of any concept, we fix the attention upon certain elements of an intuition to the exclusion of others, we have in mind, so to speak, a constituent part of an intuition: the fact that we recognise its similarity or sameness with parts of other intuitions does not alter the individual character of the elements which we actually have in mind. The operation of forming a concept and the operation of conceiving an infinite line are in nature identical.

It seems impossible that any one, having reflected upon the fact of his constantly grasping in concepts elements which can yet not be separately imagined, and having, after an analysis of what is in his mind when he calls up the notion of an infinite, discerned the identity of the latter operation with the former,—it seems impossible that such an one should hold infinite space or infinite time to be inconceivable. If, however, he should still object that, even if it be true that we can grasp in thought the notion of progression, and the notion of a line in general, this will give us no knowledge of an infinite line, but will give us only the elements of an incomplete image, which cannot be called distinctly before consciousness, and, therefore, cannot be known as an object at all;—we may answer that, if he feel himself aggrieved because he cannot represent to himself, endowed with all the qualities necessary to an object of the imagination, that which he has already defined as wanting some of those qualities, he must also be unreasonable enough to think it ground for complaint that he cannot in thought make parallel lines meet, or imagine a triangle with four sides. The word 'infinite' means devoid of limits, and it necessarily follows that an infinite line cannot be known as a quantity, consequently not as a whole. Every *object* which is seen or imagined has necessarily limits, definite or indefinite: an infinite line, as infinite, cannot become an object of the imagination. But from this it by no means follows

what Hume was pleased to call a "distinction of reason," and at least the former be held in the attention abstracted from the latter. Whether the latter were wholly eliminated or only subordinated, the complex mental state would still be quite different from that in which the elements have the relative prominence usual in our ordinary experience of objects.

that I cannot call a particular line infinite, provided I have some proof for the fact other than its conceivability, and that I cannot know my conception to be in harmony with the reality. Suppose that, either from testimony, or by means of some *a priori* chain of reasoning, I have good reason to believe a given line endless: I can conceive the line as without end, and I may know my conception, although it does not represent the total content of my consciousness when at any moment I gaze upon this or that part of the line, to be a true and real conception, and in harmony with my experience as I pass over the line; and I may be certain that, however long my experience may continue, it will yet not prove incompatible with the conception I have formed. In this sense any infinite object is conceivable, and there would seem to be no other conceivable way in which we could conceive it: an infinite object which could be known as a whole is not even an object of thought, for the elements indicated by the words cannot be so put together as to express a meaning. But the conception of the infinite, rightly defined, contains in it nothing either contradictory or beyond the grasp of the human mind, and is, indeed, a very common conception, as is evidenced by use of the word in literature ancient and modern, to say nothing of its constant occurrence in the debates of those very philosophers who find the conception such a stone of stumbling. And that the conception is a real one, having a real consonance with experience, those who hold to the Christian doctrine of Immortality will not be slow to maintain.

IV.—THE HISTORICAL METHOD.

By Professor H. Sidgwick.

A critical reader—holding with Knies[1] that a 'Historical Method' ought, in strictness of language, to mean a method of studying history—may possibly object *in limine* to the presence of this paper in a Philosophical Journal. Such an objection certainly deserves an answer, since the antithesis between the 'historical' and the 'philosophical' view and treatment, either of the facts of external nature or of the life of man and human society, must be admitted to be ancient and orthodox. And it is convenient to give my answer to the objection at once; because this answer is in fact my reason for selecting this subject for discussion. I find that this antithesis between 'historical' and 'philosophical' is not only ancient but antiquated: it does not correspond to the prevailing tendencies of educated thought in the present age. For if we are to define the scope of Philosophy *neutrally* —*i.e.*, so as to avoid implying any of the disputed assumptions of particular philosophical schools—we can only define it as the study in which the principles, methods and main results of the special sciences and departments of systematic thought are compared with the view of reducing them, so far as possible, to a higher unity of system. And, if we accept this or some similar definition of Philosophy, it may, I think, be truly said that a belief in the Historical Method is the most widely and strongly entertained philosophical conviction at the present day.

In speaking thus of a 'belief in the Historical Method' I may seem to have used a very vague phrase; but I have done so deliberately. Generally speaking, when we try to fix in impartial language, for the purpose of examination, a prevalent philosophical opinion of recent growth, we have to submit to a certain initial vagueness in our conception of it. To get rid of this vagueness will be the main aim of this paper; but if I tried to get rid of it at the outset by the exactest possible definition, I should inevitably alter the object that I am proposing for examination: I should turn it into a doctrine either more limited in its acceptance

[1] In the last edition (1883) of his *Politische Oekonomie vom geschichtlichen Standpunkte*, p. vi.

or more limited in its application, and should thus either impair its claim to be called prevalent, or diminish its claim to be called philosophical. From a philosophical point of view, the characteristic that concerns us most in the prevalent belief in the Historical Method is that it is held to have, in some sense and some degree, a universal application—that, as its admirers say, it has "invaded and transformed all departments of thought". It is undeniable that in every department of thought either the objects of our present thought or our thoughts about them, or both, are conceived by us as a present that has had a past different from it; and it is therefore a *primâ facie* tenable view that in all cases, in order to understand rightly this present, the essential thing is to study the past that has led up to it and contemplate the present in the light furnished by this study; and it is on the general and eager—if inevitably somewhat indefinite—acceptance of this view that the deepest influence of the Historical Method depends, and its deepest interest for students of philosophy.

For if this breadth of scope and this height of pretension be admitted, the Historical Method cannot, I conceive, really leave room for any important and effective philosophical method distinct and apart from it. It is true that some of the most eager advocates of the Historical Method take pains to explain that they not only leave room for Philosophy, but even concede the first rank to it, as the more dignified and profound inquiry: they confine themselves merely to the relative and phenomenal, and—with the utmost formal courtesy and humility—leave the whole sphere of absolute being for philosophy to study. But this humility and courtesy is, I need hardly say, ironical: the absolute thus left is known to be unknowable; the egg thus offered for simple-minded philosophy to brood over is known to be addled. If we are to admit the claims of the Historical Method, in all the breadth and fulness with which they are widely asserted, we must admit that it is or includes the only available philosophical method, in the present state of our knowledge.

It is this largest conception of the scope and aims of historical study which I propose to begin by examining; for though I shall presently come down to a narrower conception—which has, I think, still more general acceptance—it appears to me that this narrower conception will be most easily and clearly dealt with if we approach it through the wider.

Let us take, then, in order the chief departments of

science, and consider briefly how far it is true that they have been "invaded" by the Historical Method.

To begin: it is obvious that no such invasion has taken place, or is threatened, in the department of pure mathematics—the sciences of space, number, abstract quantity. The objects of these sciences, the relations which they investigate are, of course, independent of time: they cannot be conceived as having had a past different from the present. Our conceptions, no doubt, of these relations have had a history; and in the general increase of historic interest, which is certainly characteristic of our age, this branch, among others, has received its share of attention. But whatever philosophic aim the students of the past history of mathematics may propose to themselves, they certainly do not propose to modify the received method of mathematical reasoning by the introduction of a historical element, or to support the fundamental assumptions of mathematics by arguments drawn from history, or to explain anything that may seem unexplained or arbitrary in these assumptions by a reference to the process of development through which they have passed.

Much the same may be said of the fundamental universal premisses which we use in our general reasonings about the material world—the laws of motion, or the law of gravitation. We conceive such laws to have operated unchanged through all conceivable time; and whatever doubts and disputes may exist either as to the exact way in which such laws should be formulated, or the exact nature of the evidence on which they rest, no one supposes that this doubt and conflict admit of being solved by any knowledge of the process of development through which our physical conceptions have come to be what they are.

The case is different when we contemplate the physical universe as a particular concrete fact, and seek for an explanation of its concreteness and particularity: when we ask why there should be sixty-four or more different kinds of matter, distributed so apparently arbitrarily and irregularly through the spherical mass on which we are carried about in space, and why there should be—as astronomy declares—a no less irregular and arbitrary distribution of this or other matter through the rest of space. Here no doubt we have a problem for which many inquiring minds have sought a solution in history—in the wide sense in which I am now using the term: they have hoped to find by studying the processes of change through which the physical universe has passed an explanation of the complex of irregular differences which its

actual condition exhibits. But whatever success they may have had in tracing back the past states of the physical universe has not really helped them a step towards a philosophical solution of this problem: all they have done is to change one particular mode of arbitrariness and irregularity for another no less apparently unaccountable.

This negative result, indeed, is not always plain at first sight. *E.g.*, when we first consider the formula in which Mr. Spencer generalises the process through which the physical universe has passed, and contemplates matter "passing from an indefinite, incoherent homogeneity to a definite coherent heterogeneity," it seems at first as if our complex of arbitrary differences would be ultimately simplified away if we could retrace this process far enough back. But reflection shows that the "indefiniteness" which Mr. Spencer attributes to primæval matter is not a condition of matter as we conceive it to have existed, but only relates to its apprehension by our limited intellects—if we conceive any particle of matter as existing at all, we of necessity conceive its spatial and dynamic relations as perfectly definite. Similarly, we are forced to conceive every particle of matter as always in a sense coherent—that is, connected by dynamic relations—with every other particle; and whatever heterogeneity the whole aggregate now possesses requires us to suppose a corresponding heterogeneity at every point of the process of complex motion through which it has passed in time. The process which Mr. Spencer describes as a process from the homogeneous to the heterogeneous is a process which may increase the *amount* of difference between the parts of space compared, in respect of their occupation by matter; but it is not a process that can *originate* difference. With whatever confidence we may give the rein to the most audacious of speculative astronomers, and under his guidance sweep back through eras of time to the most diffused of nebulæ, we shall yet find in the nebula with which we leave off a complex of apparently arbitrary and irregular differences, needing explanation just as much—or just as little—as the particularities of our actual planet, rolling in the "gleam of a million millions of suns".

In saying this, I do not mean in any way to depreciate the interest and importance of attempts to trace out the past history of the cosmos, by speculative geology and speculative astronomy combined: I merely point out that, whatever degree of success may crown such efforts, there is no prospect that they will either tend to solve the philosophical problem prescribed by the actual particularity of the cosmos, or

in any way affect the received methods of rational physics or the received methods of chemistry.

But what shall we say of the sciences that deal with organic life? Is it not true that zoology and botany have been invaded and transformed by the Darwinian theory, and all the speculation and investigation about the development of organic life to which it has given rise? It is certainly true that this historical biology—if I may be allowed the term—has wrought a change in our general conception of the actual differences in the organic world to which no parallel can be found in the sciences which deal with inorganic matter. For no hypothetical history that has been offered us of the inorganic world has even professed to explain the qualitative differences with which chemistry is concerned; at least it has not professed to explain them by any method resting on an empirical basis and capable of being tested by facts. Whereas the hypothetical history of the organic world which we owe to Darwin does attempt to show how differences of kind, in the matter with which it deals, have been developed out of an original identity; or, more strictly, it aims at showing how differences in external relations, in situations and circumstances, have been taken in and transformed into differences of internal relations, differences of organisation.

Still, I should not exactly say that the historical or evolutional method of biology has invaded and transformed previously existing departments of knowledge; it rather seems to have annexed to science a new and important region, hitherto desolate and only viewed as it were from a sort of philosophic Pisgah as possibly destined for orderly scientific cultivation. Whatever positive systematic knowledge of living things was thought to be given us by zoology and botany, pursued on pre-Darwinian methods, is in no way invalidated or set aside by the newer speculations: what has been invalidated is merely the negative conception of ultimate irreducibility in specific and generic differences. And I may add that our knowledge of the history of life on this planet had made even this negative conception philosophically untenable, long before Darwin's theory was produced; for it had become evident from the geological record that we could not deal with organic as with inorganic differences of kind, by throwing them back to the inscrutable origin of all things. Our existing fauna and flora must be held to have appeared on the planet after long periods of time in which pre-existing species had lived and died out: they could not have trooped in, as we know them, on the most conveniently arranged

fleet of meteors: they must therefore have come into being on the planet: but how? 'Special Creation' was a popular answer; but, scientifically considered, special creation was a purely negative notion: it simply denied a causal relation between the novel fact, the newly existing species, and all antecedent cosmical facts: and no philosopher could accept such a denial, at least without evidence which can hardly be conceived and certainly could not be produced. But if the new organism was not, physically speaking, uncaused, it must be causally related either to pre-existing inorganic matter, or to other organic life: these were the only two alternatives, and of the two the latter was indefinitely more probable even before we had any evidence from which we could infer the particular nature of this causal connexion.

Hence the new history of organic life which the Darwinian theory gave us, so far from invalidating anything that we had before taken for positive knowledge of living beings, did not even meet, in philosophically trained minds, with any negative prepossessions that had to be overthrown.

It may be thought, however, that—even granting what I have just urged to be true of the study of organic life generally—it cannot be true of the living being that interests us more than all the rest, of man. Surely, it may be said, if we admit that man has been gradually developed out of an ascidian, or other low organism, the old conception of a dual nature of man, a mysterious combination of spirit and body, has to be given up: materialism clearly wins in its old conflict with spiritualism. I know that this is a popular inference from the Darwinian theory; but I cannot see that it has any philosophical basis. However completely we accept the theory, all the really philosophical obstacles in the way of a purely materialistic view of man appear to me to remain unchanged. It remains true, as Mr. Spencer says—and the statement is perhaps more impressive as coming from him than if made by a more idealistic philosopher—it remains true that psychical facts, as known to us by "subjective observation and analysis" have no "perceptible or conceivable community of nature" with physical facts, ascertained by objective observation and analysis: it remains true that—as the same writer says—"of the two it seems easier to translate so-called matter into so-called spirit, than to translate so-called spirit into so-called matter (which latter is, indeed, wholly impossible)".[1]

Still, it may be replied, even granting the untenability of

[1] *Princ. of Psychology*, §§ 41, 63.

mere materialism, the Darwinian theory of the origin of man renders it impossible for us to conceive of the continued existence of the individual man after his physical death. We cannot attribute a soul to the ascidian or other aquatic progenitor; and if man has been developed by gradual changes out of such a being, there is no point in his history at which the independent existence of his soul can be conceived to begin. Therefore, however the metaphysical issue between materialism and idealism may be settled or left unsettled, at any rate, Evolution has eliminated the old belief in the immortality of the soul; so that materialism wins on the only point of any practical importance to a plain man.

If historical biology had achieved this result, I should recognise that it had invaded with tremendous effect our study of man and his destiny; but the supposed achievement appears to me quite illusory. I admit that there is a certain difficulty in accepting the common conception of man's dual nature, owing to the gradual development of his physical organism out of a portion of organised matter to which soul cannot be attributed; but this difficulty was always, I conceive, presented in full force by the known history of any individual organism, and I do not see that it is materially increased by the completest acceptance of a similar gradual evolution of the human species. The process by which the admittedly soulless organism grows into that supposed to be soul-possessing is indefinitely more rapid in the case of the individual; but I do not see how this difference in rate of change affects the difficulty of conceiving how the connexion of immortal soul with the gradually changing material organism commences.

I conclude, then, that the historical method, as applied to anthropology on the basis of Darwin's theory, leaves the metaphysical problem of the relation of mind and matter exactly where it was. It remains to consider how far our study of the nature of mind, so far as it is an object of empirical knowledge, of "subjective observation and analysis," is affected by investigation of its past history. This investigation of the origin and growth of mental phenomena or faculties, as is well known, has occupied a large share of the attention of English psychologists since the middle of the last century; and has attained results of undoubted interest. But the psychological importance of these results has often been misconceived, owing to a fundamental mistake of method to which no parallel can be found in the investigation of the material world. In physics or physiology there is no danger of confounding the question as to the actual

condition and relations of the things that we are examining with the question by what process they have come to be what they are: the actual resemblances and differences between (*e.g.*) an ape and an ascidian remain obviously just the same whether we affirm or deny that the former has been developed out of the latter. But in the investigation of mind—owing to the greater difficulty and obscurity of subjective observation and analysis—a confusion of this kind has been possible and has actually taken place. When it has been shown with more or less probability how thought may have gradually grown from sensation, rational choice from instinctive impulse, altruism from egoism, it has been hastily inferred that the nature of thought, will, disinterested desire is somehow altered by the discovery of their historical antecedents: that these later and higher mental facts are not what they seem, what subjective introspection and analysis declare them to be, but something different—namely, the more primitive phenomena which have preceded them in development: that thought is a species of sensation, altruism a species of egoism, and so forth. It always seems to me that this inference, though it has been widely made, admits of no justification when the question of its legitimacy is once distinctly raised. As I have elsewhere said (*Methods of Ethics*, 209), it seems to have been encouraged "by an infelicitous transference of the conceptions of chemistry to psychology: the later mental phenomenon is supposed to be a quasi-chemical compound of the antecedent phenomena from which it has been derived. But in chemistry this conception is legitimated by the ascertainable equality in weight between compound and elements and the possibility of substituting the latter for the former: but no such reasons exist—nor any others that I know of—for considering psychical antecedents as really constitutive of their psychical consequents in spite of their apparent dissimilarity."

But, it may be said, granting that the question what our thoughts, emotions or volitions actually are cannot be affected by any investigation of the process by which they have come to be what they are, still such investigation may have an important bearing on the more interesting because more difficult question, whether they are what they ought to be. The method of introspective observation, it may be said, has commonly professed to do more than give us a mere inventory of our thoughts; it has professed to give us a criterion for determining their validity; and it is this pretension rather than the former that has been successfully

two classes of processes, the one centripetal, the other centrifugal, there are centrimanent cerebral operations, some of which are given in consciousness, and make up the mental life of thought and feeling. These cerebral changes all take time, and, as I shall show, the times can in many cases be determined.

I. *Apparatus and Methods.*

The time taken up by cerebral operations cannot be directly measured. It is necessary to determine the time passing between the production of an external stimulus, which excites cerebral operations, and the making of a motion after these operations have taken place. The apparatus needed to determine this time must consist of three parts:—(1) An instrument producing a sense-stimulus to excite cerebral operations and registering the instant of its production; (2) an instrument registering the instant a motion is made, after the cerebral operations have taken place; and (3) an instrument measuring the time passing between these two events. The first two instruments must vary with the sense-stimulus to be produced and the motion to be registered; to measure the times, I have used the Electric Chronoscope made by Hipp in Neuchatel. When properly controlled, this chronoscope measures the time as accurately as any of the chronographic methods which have been proposed, and it is much simpler and more convenient in its application.

The Chronoscope is a clockwork moved by a weight and regulated by a vibrating spring. The spring vibrates a thousand times a second, and at each vibration the tooth of a wheel is allowed to pass, somewhat on the principle of the escapement in a watch. This method of regulating the clockwork is ingenious and accurate, but, especially in the new form of the chronoscope, is apt to get out of order. The value of the chronoscope consists in the application of an electromagnet. The hands recording the time are not in connexion with the clockwork, and consequently do not move when it is set in motion; but, when an electric current is sent through the coil of the electromagnet, the armature is attracted, a system of levers throws the hands into connexion with the clockwork and they are set in motion; and, again, when the current flowing through the coil is broken, a spring draws back the armature and the hands stand still. Thus the time the current flowed through the coil of the electromagnet is measured.[1] The hands record thousandths of a second.[2] The chronoscope works with great accuracy; the only serious difficulty in its application being that the length of the times recorded by the hands varies with the strength of the current passing through the coil of the magnet. Supposing the strength of the spring holding back the armature to remain constant, if the current sent through the coil is very weak, the soft iron is only completely magnetised after a considerable interval, and it takes longer for the magnet to attract the armature after the current has been closed, than for the spring

[1] A second electromagnet makes it possible to reverse this process, and measure the time a current has been broken.

[2] Throughout this paper, both in the text and in the tables ·001 second is taken as the unit of time. I use σ as a symbol to represent this unit: σ is analogous to $\mu = ·001$ mm.

to draw back the armature after the current has been broken; consequently the time recorded by the hands is shorter than the time the current flowed through the coil of the magnet. If, on the other hand, the current used is very strong, the soft iron is rapidly magnetised and the armature attracted. But the magnetism lasts a considerable interval after the current has been broken. Thus, it takes longer for the spring to draw back the armature after the current has been broken than it took the magnet to attract it after the current had been closed, and the time recorded by the hands is longer than the time the current flowed through the coil of the magnet. If the strength of the current is not properly adjusted, the times recorded may be over $\frac{1}{10}$ sec. too long or too short, an error as large as the whole length of the reaction-time. It is, however, possible so to adjust the relation between the strength of the spring and the strength of the current that it takes exactly as long for the magnet to attract the armature after the current has been closed as it takes the spring to draw it back after the current has been broken, and in this case the hands record the exact time the current flowed through the coil of the magnet. This can be done empirically by determining the time the current has been closed, and then so adjusting the strength of the spring and the current that the hands record the correct time. For this purpose (as well as for others later to be described) I have used an instrument, which, with reference to theuse for which it was first devised,[1] I call a Gravity-Chronometer.

It consists (Fig. 1) of two heavy brass columns 30 cm. high and 10 cm. apart, standing perpendicular to the base. The columns can be set exactly perpendicular by means of the three screws on which the apparatus stands. Wedge-shaped grooves are worked in the columns, and in these a heavy soft iron screen slides without appreciable friction. This screen is held up by an electromagnet, which can be adjusted at any height desired. When the current passing through the coil of the magnet is broken, the screen falls, falling through the same distance in an exactly constant time. On one of the columns small keys (Figs. 2 and 3) can be fastened, which respectively close and break a current. They each consist of a hard rubber basin filled with mercury, the mercury being in connexion with a binding screw; a lever with a platinum point, connected by a wire with a binding screw, dips into the mercury. In the one key (Fig. 2) the lever is so adjusted that the point does not touch the mercury, but when the key is fastened to the column of the gravity-chronometer and the lever is struck by the falling screen, the point is thrown into the mercury. In the other key (Fig. 3.) the lever dips into the mercury, but is thrown out (as shown in the figure) when struck by the screen. The keys are fastened to one of the columns, as at x and y (Fig. 1), the key (Fig. 2) at which the current is interrupted being above. The current controlling the chronoscope passes through both of these keys, the connexion, however, being interrupted at the upper key. The screen is now allowed to fall by breaking a current (not the chronoscope current) which through the electromagnet had been holding it up. After the screen has attained a considerable velocity it strikes the lever of the upper key, and throws it into the mercury; thus the current controlling the chronoscope is closed and the hands are set in motion. After the screen

[1] See *Philosophische Studien*, iii. 1; *Brain*, Oct., 1885. The apparatus described in this paper was made under my direction in the workshop of Carl Krille, Leipsic, and he can supply duplicates. The apparatus can be examined in the Psychological Laboratory, Leipsic, or in the Army Medical Museum, Washington.

has fallen the distance between the keys (xy) it strikes the lever of the second key and throws it out of the mercury; the current controlling the chronoscope is consequently broken and the hands stand still. The screen always falls through the distance between the keys in exactly the same time, and the times recorded by the hands of the chronoscope are constant,

FIG. 1.

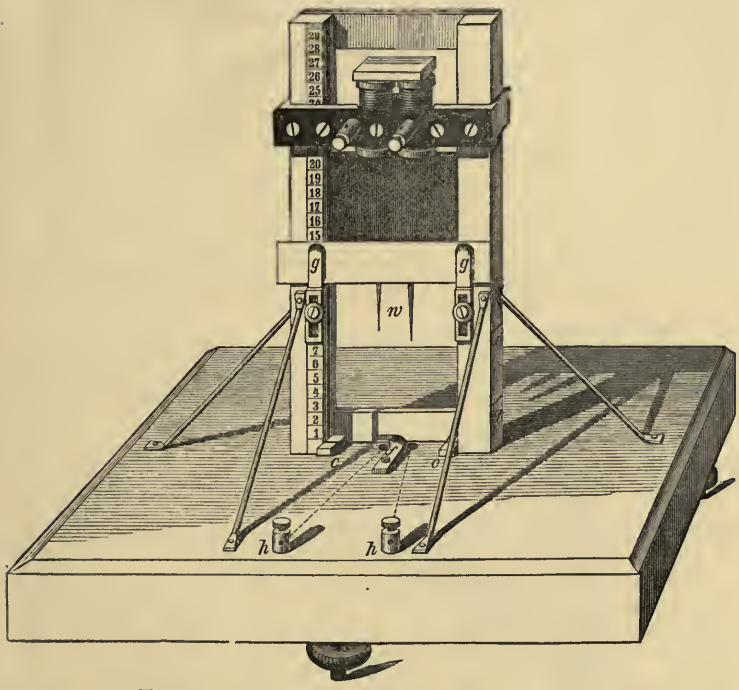


FIG. 2.

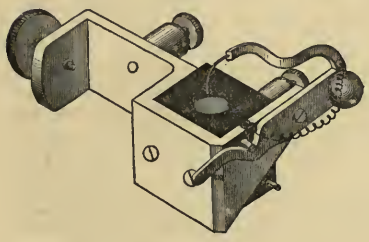
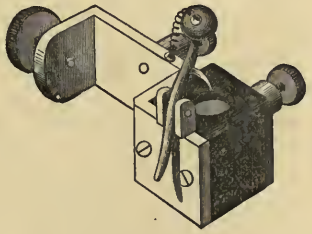


FIG. 3.



but may be over $\frac{1}{10}$ sec. longer or shorter than the time the current was really closed. The time required for the screen to fall through the distance xy (the time the current has been closed) is determined by means of a tuning-fork which writes on smoked paper covering the screen. The time can also be calculated; the theoretical time for a body falling in a vacuum

being but little shorter than the actual time as determined by the tuning-fork. When we know the time between the closing of the current at the upper key, and the breaking at the lower, the strength of the current attracting the armature and of the spring holding it back can be so adjusted that the hands record the correct time. The stronger the current and spring are taken, the shorter is the time required for the armature to be attracted after the current has been closed and drawn back after the current has been broken. The determination with the tuning-fork need only be repeated so often that we are sure no error has been made ; it is well to change the distance between the keys and see that the times given by the chronoscope and the tuning-fork are the same. The chronoscope must, moreover, be controlled every day by the gravity-chronometer (or by a sensitive electrometer ; the apparatus itself is a very sensitive electrometer) to see that the current has remained constant, and to readjust it if it has become stronger or weaker. For this purpose the gravity-apparatus supplied by Hipp can be used if proper precautions are taken. The strength of the current is adjusted by means of a rheostat, (R, R', Fig. 8) and its direction changed (to avoid permanent magnetism) by means of a commutator. It is evident that a battery must be used giving as constant a current as possible. After considerable experiment I have adopted a form of the zinc-copper gravity-battery. I use six large cells, renewing them about once a month.

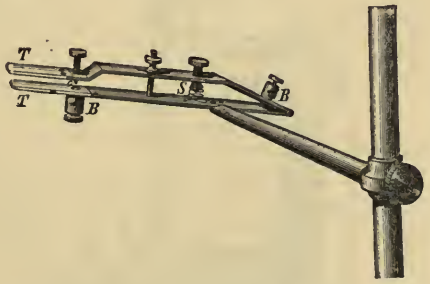
If the chronoscope is properly controlled it measures the times very accurately. With the same current the mean variation of the chronoscope (including sources of error in the gravity-chronometer) is less than $\frac{1}{500}$ sec. This small variation corrects itself completely in a series of measurements. A second variation about equal to the first is caused by the current not being accurately adjusted, or changing after it has been so adjusted. This error also tends to eliminate itself. A third source of error lies in the chronoscope's running too fast or too slow. This is, however, no greater than in any chronographic method where the time is measured by a vibrating tuning-fork ; the chronoscope can indeed be regulated with great accuracy as it runs a minute (60,000 vibrations).

The gravity-chronometer (Fig. 1) was used in nearly all my experiments to produce the sense-stimulus, and to close at the same instant the current controlling the chronoscope. When the reaction-time for light was to be determined, the space between the columns was filled up with black pasteboard, so that the screen was completely hid from the observer. In the pasteboard (below the screen, the magnet being higher than in the figure) a hole 3 × 2 cm. was cut, and the observer fixated a black surface several mm. back of the hole. The experimenter allowed the white screen to fall by breaking the current which had been flowing through the coil of the magnet. Suddenly and without warning, at the point fixated by the observer a white surface 3 × 2 cm. appeared ; at the same instant (to $\frac{1}{1000}$ sec.) the screen struck the lever of the key (Fig. 2) and closed the current controlling the chronoscope. No noise is made by the falling screen until it is stopped by striking the spring f and the rubber cushions c c, and this noise comes too long after the light to either shorten or lengthen the time of the reaction. The spring f is so adjusted as to partially stop the falling screen and to prevent it from rebounding after it has struck the cushions. If cerebral operations other than those included in the reaction-time were to be investigated, the object exciting these operations, a printed word for example, was pasted on a card 15 × 3 cm. This card is held in position by the springs g g, and is hid from the observer by the black screen. The observer fixated a grey spot on the screen, which exactly covered the object on the card (the figure shows of course the back of the apparatus). A bent

copper wire *w*, one side longer than the other, is fastened to the screen, as shown in the figure. When the screen falls the amalgamated points run into two holes bored in the base and filled with mercury. These basins are connected with the binding screws *h h*, and these respectively with the battery and chronoscope, so that the current is interrupted at this point. When the screen falls, however, the copper wire connects the two basins of mercury, and the apparatus is so adjusted that the instant (to $\frac{1}{1000}$ sec.) the object on the card is uncovered to the observer, the shorter limb of the wire touches the mercury and the current controlling the chronoscope is closed. This method is in every way better than that hitherto used of illumining the object by an electric light. It avoids altogether the great inconvenience and difficulty of using an induced current, as keeping the light constant, closing simultaneously an induced and galvanic current and other difficulties best known to those who have tried to overcome them. Further, it eliminates the time required to adapt the eye to a light of unexpected intensity, placed by experimenters as quite large. Lastly, it enables the observer to fixate exactly the point at which the object appears, so that words, &c., can be used.

Three instruments were used to break the current controlling the chronoscope at the instant the observer made a motion. The first of these was a telegraphic key, which the observer held closed with his finger or fingers, and let go by a motion of the hand. The key used should be very sensitive ; it should break the current instantaneously, yet should not require much pressure to hold it closed. The other two instruments were devised to break the current when the organs of speech are moved. The first of these (Fig. 4) we can call a lip-key. The binding screws

FIG. 4.



B B are connected respectively with the battery and the chronoscope. The platinum contact at *c* is closed when the observer holds the ivory tips *T T* between his lips ; but as soon as the lips are moved the spring *S* breaks the contact, and, consequently, the current which had been flowing through the chronoscope. The only difficulty in the way of using this lip-key is that it is possible for the observer to move his lips before he makes the motion to be registered. This difficulty is avoided by means of the apparatus shown in Figures 5, 6 and 7, which we can call a sound-key. The current controlling the chronoscope is broken when the observer speaks into the mouth-piece *M* (Fig. 5). An additional galvanic current is needed to work this apparatus. I used four Daniel cells. The current flowed through a commutator (*C''*, Fig. 8), the coil of the electromagnet (Fig. 7), and the instrument shown in Figures 5 and 6. This latter consists of a mouth-piece, a funnel, and a ring (Fig. 6) fitting into the

funnel, and covered with kid leather. When the observer speaks into the mouth-piece, the sound waves through the membrane into vibration, and the platinum contact at *c* is broken; the breath accompanying speech also breaks the contact. The current making the electromagnet (Fig. 7)

FIG. 5.

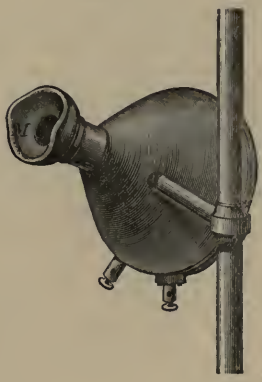
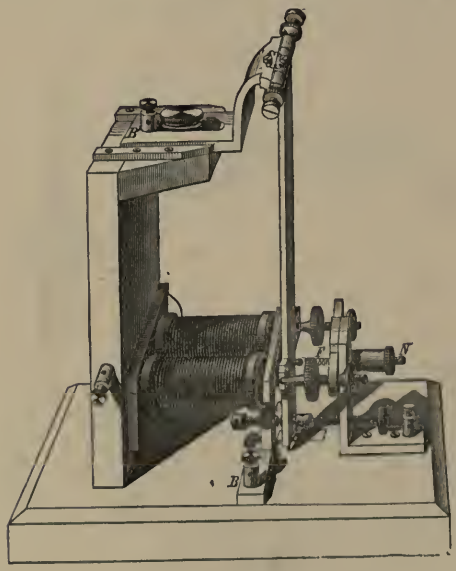


FIG. 6.

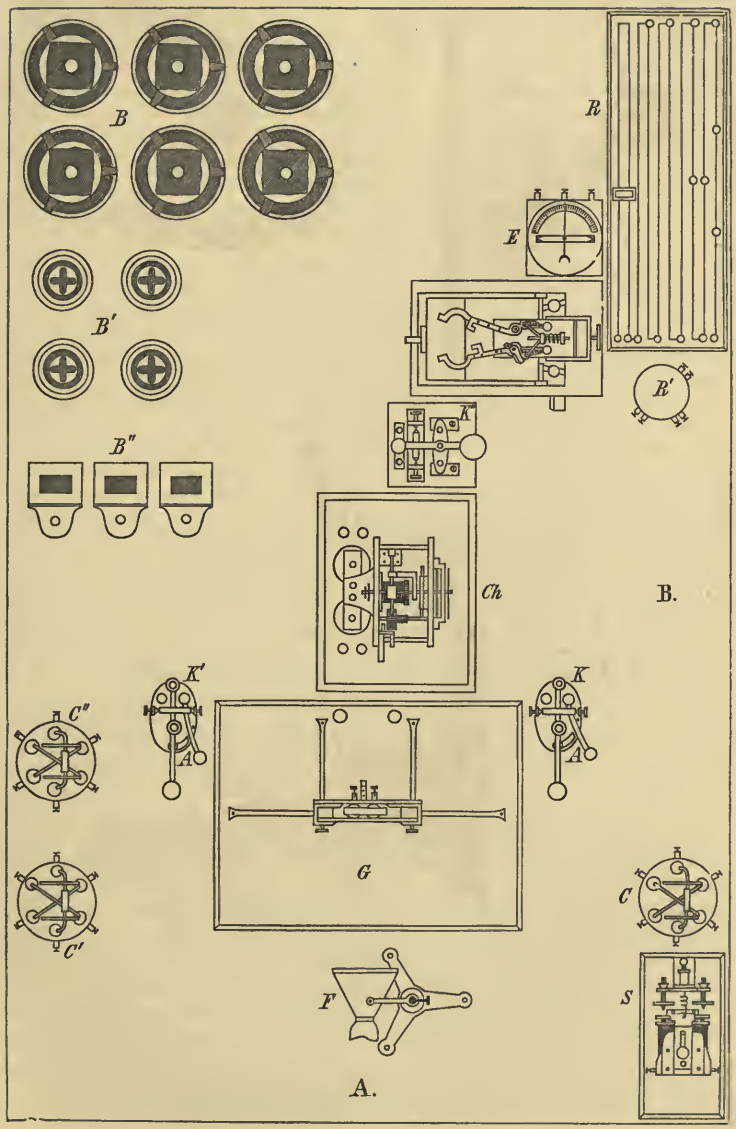
FIG. 7.



flows through this contact; so when it is broken, if only for an instant, the soft iron looses its magnetism, and the armature is drawn back by means of the spring *F*. The strength of this spring can be regulated by means of the screw *N*. The binding screws *B B'* are connected respectively with

the chronoscope and its battery, so that the current flows through the contact at *C*. This contact is closed as long as the armature is held by the magnet, but is broken the instant the magnetism in the soft iron disappears or is weakened so that the spring can draw away the armature. The armature is not held against the magnet, the contact being at the point *C*.

FIG. 8.



The pressure is kept constant by regulating the strength of the spring *F*. It will be seen that after the contact in the funnel is broken, no appreciable time elapses before the current controlling the chronoscope is broken ; but the contact in the funnel is broken by the slightest motion of the speech-organs, so the instant of this motion is registered.

In Fig. 8 I give the arrangement of the apparatus when it is wished to determine, for example, the time it takes to see and name a word. It is a matter of no small importance so to arrange the apparatus that it can be conveniently operated on, and the figure will further make clear the connexion of the different instruments and the several batteries. The observer sits at A., the light coming over his left shoulder. His head is held naturally, and at the distance of most distinct vision for the word. He can conveniently speak into the mouth-piece of the sound-key *F*, or hold the telegraphic key at *K* closed. The experimenter[1] sits at B., within easy reach of all the apparatus he has to control. The current belonging to the chronoscope flows from the positive pole of the battery *B* to the commutator *C*, thence through the rheostat *R R'* (if desired, also through the electrometer *E*) and chronoscope *Ch* to the gravity-chronometer *G*, where the connexion is interrupted when the mercury in the two basins is not connected, thence the current flows through the contact of the sound-key at *F* back to the commutator and battery. The current making the electromagnet of the gravity-chronometer flows from the battery *B'* to the commutator *C'*, and thence through the key *K''* and the gravity-chronometer back to the commutator and battery. The third current, controlling the sound-key, flows from the battery *B''* to the commutator *C''*, and thence through the contact of the sound-key at *F* and coil of the magnet at *S*, and back to the commutator and battery. Suppose now we wish to measure the time it takes to see and name a word. The experimenter puts a card on which a word is printed into the springs of the gravity-chronometer ; he then says 'now,' and starts the clockwork of the chronoscope. The observer fixates the point on the screen immediately before the word. Then the experimenter (or the observer himself) allows the screen to fall by breaking the current which, through the electromagnet, had been holding it up. Suddenly the word appears at the point fixated by the observer, and at the same instant the basins of mercury are connected by the copper wire ; thus the current controlling the chronoscope is closed and the hands are set in motion. The observer names the word as quickly as possible. As soon as he begins to speak, the current making the magnet at *S* is broken and the armature is drawn away. The current controlling the chronoscope is thus broken, and the hands stand still. The experimenter then stops the clockwork and reads from the dials the exact time taken to see and name the word.

The special methods and precautions necessary to secure correct results in using the apparatus here described can best be considered when I come to treat of the different cerebral operations, the times of which I have tried to determine. It may, however, be well to mention here two points, which are common to all the experiments I have made. The first of these is the method of deducing a correct average from the separate experiments. Two methods have been employed : either all the re-

[1] I call the person having charge of the apparatus the experimenter ; the person on whom the experiments were made the observer.

actions measured have been averaged together, or those times which the experimenter thought too long or too short have been altogether ignored. There are however serious objections to both of these methods. The former does not give correct results. Through some abnormal circumstance, a reaction may vary so greatly from the average of the others, that the whole series gets a false value. It might be supposed that this error could be eliminated by making the whole number of experiments sufficiently large; this, however, makes necessary a great expenditure of time and labour, without altogether correcting the error. In physical experiments, the measurements varying most from the average are equally likely to be positive or negative; this is not the case in our work. Reactions that are so short as seriously to affect the average can scarcely occur, but through some inner or outer disturbance the reactions are sometimes abnormally long. Thus, even though the average of an indefinitely large number of reactions is taken, the result is not correct, but somewhat larger than the average of the reactions made under normal circumstances. The method introduced by Exner of simply ignoring the reactions which seem to be too long or too short may give correct results, but is undoubtedly unreliable. The experimenter thinks he has found the proper worth, and then almost unconsciously leaves out of his reckoning the reactions which would invalidate it. For example, Merkel [1] gives fifteen averages in which his 'perception time' is between 22 and 25σ, and the times in a hundred and twenty other series, made on eight different persons, correspond exactly with this, varying only between 19 and 26σ. These averages correspond to an altogether impossible extent; we need not therefore be surprised at finding the time quite false. The work of v. Kries and Auerbach [2] loses much of its value from the fact that so many of the determinations have been omitted in calculating the results.

I have used a different and, as far as I am aware, new method. If the apparatus did not work properly, of course no reaction was measured; but the average of all the reactions measured was calculated. Either 13 or 26 reactions were made in a series; the average of these reactions was calculated, and the variation of each reaction from this average. Then the reaction having the largest variation was dropped, the average of the remaining 12 or 25 reactions was calculated, and the reaction varying most from this average was again dropped. This process was continued until the 3 or 6 worst reactions had been dropped, I then having the 10 or 20 best reactions, and the variation of each of these from the average. In practice we need not calculate so many new averages, it being only necessary to drop the 3 or 6 reactions

[1] *Philosophische Studien*, ii. 1.

[2] *Du Bois-Reymond's Archiv*, 1877.

varying most from the corrected average, which can usually be foreseen. In this paper I give the average of all the reactions made, as well as the average corrected by the method I have described. It will be seen that the two values do not differ greatly; this is owing to the fact that the conditions of the experiments were such that really abnormal reactions seldom occurred.

The second point to be mentioned here is the influence of practice, attention and fatigue on the length of the times determined. In a later section of this paper I shall give an account of experiments I have made on this subject. In other cases it was sought to eliminate as far as possible these sources of variation. The two subjects (Dr. G. O. Berger and the writer) on whom the determinations were made had already had much practice in psychological work. They were in good health and lived regularly, not even using coffee. The experiments were made every morning (except Sunday) from eight to one o'clock. After each series of 26 reactions, a considerable and constant interval elapsed before the same subject again reacted. The subject held his attention as constant as possible, and was not disturbed by noise or the presence of others in the room.

These experiments, though begun in America, have been carried out in the psychological laboratory of the University of Leipsic. Professor Wundt, the founder and director of this laboratory, has earned the gratitude of all those interested in the scientific study of the mind. I owe him special thanks for the constant help and encouragement he has given me in my work.

II. *The Reaction-Time.*

The reaction-time can be determined with ease and accuracy, but it is difficult to decide what operations take place when a reaction is made, quite impossible to determine how the time is divided among the several operations. We shall see that under favourable circumstances the reaction-time for light is about 150σ. It seems to me probable that this period is divided about equally between the processes occurring within and without the brain. The latter are: (1) the latent period in the sense-organ; (2) the time of transmission in the afferent nerve; (3) the time of transmission in the spinal cord and efferent nerve; and (4) the latent period in the muscle. Physiologists have attempted to determine these times separately, but they must be far more constant than the discordant results would lead us to suppose. The experiments I am about to describe show that when the reaction-time is measured the mean variation of the separate times from the average is only $\frac{1}{20}$ of the whole time; and we may attribute this small variation chiefly to changing

[1] I can of the brain. If these times were not constant it is pro-
person on whom we could not distinguish colours and tones.

v at which a nervous impulse is transmitted has

been a favourite subject for physiological research,[1] but the results as yet reached are unsatisfactory. Exner, in Vol. ii. of Hermann's *Handbuch der Physiologie*[2] gives, as result of the "perfectly irreproachable measurements" of Helmholtz and Baxt, the rate of transmission in a motor nerve as 62m. the second; whereas, in the same volume[3] and likewise as the result of experiments by Helmholtz and Baxt, Hermann gives the rate as 33·9005m. the second. The fact seems to be that the rate depends on the temperature and other conditions, chiefly brought about by the method of experiment. Determinations made on the sensory nerve give results still more discordant and unsatisfactory. We can for the present do nothing better than assume the average rate of transmission in both motor and sensory nerve to be 33m. the second. It is probable that the rate is slower in the spinal cord, and that the nervous impulse is delayed in entering and leaving the cord, as also in passing through a ganglion.[4] As a temporary hypothesis we can suppose that when the reaction, lasting 150σ, is made, 50σ is used in transmitting the nervous impulse from the retina to the brain, and from the brain through the spinal cord to the muscle of the hand. The latent period when the muscle of the frog is stimulated by means of an induction-shock, is between 5 and 10σ;[5] and is perhaps the same when the muscle of the hand is innervated by means of a will-impulse. There is also undoubtedly a latent period in the sense-organ while the stimulus is being converted into a nervous impulse. In the so-called mechanical senses this period is very short, but when the retina is stimulated by light a chemical process (as we suppose) takes place, and the time may be quite long.[6] We know that a light must work on the retina for a considerable time in order that the maximum intensity of the sensation may be called forth; from this time, however, we can draw no exact inferences as to the length of the process here under consideration. I have shown[7] that a coloured light of medium intensity must work on the retina ·6 to $2{\cdot}75\sigma$ (varying with the observer and colour) in order that a sensation may be excited; the time becomes however much longer when a white light follows the

[1] See for references Hermann, *Handb. d. Physiol.* II., ii., 14 ff.

[2] ii., 272.

[3] i., 22.

[4] Exner, *Pflüger's Archiv*, viii., *Archiv. f. Anat. u. Phys.*, 1877; François-Franck et Pitres, *Gazette Hebd.*, 1878; Wundt, *Mechanik der Nerven*, ii., 45.

[5] Tigerstedt, *Archiv f. Anat. u. Physiol.*, 1885, and references there given.

[6] V. Wittich *(Zeitschr. f. Rat. Med.*, xxxi.) and Exner *(Pflüger's Archiv*, vii.) found the reaction-time to be shorter when the optic nerve was stimulated by an electric current than when the retina was stimulated by light. This difference may, however, be due to other factors of the reaction-time as well as to the latent period in the sense-organ.

[7] *Philosophische Studien*, iii., 1; *Brain*, Pt. 31.

colour, the second light washing away, as it seems, the impression made on the retina by the first light. Under these circumstances a violet light had to work on the retina 12·5σ, if it were to be distinguished. It seems, therefore, probable that the violet light had not been converted into a nervous impulse within this interval, and if this is the case it would give us a minimum time for this process. The familiar experiment with rotating discs shows that light-impressions of moderate intensity following one another at intervals of 25σ are just fused together. It seems, therefore, that the retina is excited, and begins to resume its normal condition in about 25σ. If this assumption is correct we have the maximum time for the period under consideration. We may be tolerably sure that the time passing before a light is converted into a nervous impulse varies with the intensity of the light, and may perhaps assume the time to be 15-20σ for daylight reflected from a white surface.

These considerations lead us to suppose that, when a reaction is made on light, only about half the time, that is 75σ, is taken up by the cerebral operations. We naturally ask what happens in the brain after the nervous impulse reaches it. It has generally been assumed that the largest factors of the reaction-time are taken up by the processes of perception and willing. I think however that if these processes are present at all they are very rudimentary. Perception and volition are due, we may assume, to changes in the cortex of the cerebrum, but reflex motions in answer to sense-stimuli, as in contraction of the pupil and in winking, can be made after the cortex has been removed, and an animal in this condition can carry out motions adapted to the nature of the stimulus. If a pigeon from which the cerebral hemispheres have been removed is thrown into the air, it will not only fly, but also avoid obstacles and alight naturally on the ground. It seems to have consequently sensations of light, but apparently no perceptions, either because it does not see colour and form, or because it lacks the intelligence needed to understand their meaning. In the same way a reaction such as we are considering can probably be made without need of the cortex, that is, without perception or willing. When a subject has had no practice in making reactions (in which case the reaction-time is usually longer than 150σ) I think the will-time precedes the occurrence of the stimulus. That is, the subject by a voluntary effort, the time taken up by which could be determined, puts the lines of communication between the centre for simple light sensations (in the optic thalami probably), and the centre for the co-ordination of motions (in the corpora striata, perhaps, connected with the cerebellum), as well as the latter centre, in a state of unstable equilibrium. When therefore a nervous impulse reaches the thalami, it causes brain-changes in two directions; an impulse moves along to the cortex, and calls forth there a perception corresponding to the stimulus, while at the same time an

impulse follows a line of small resistance to the centre for the coordination of motions, and the proper nervous impulse, already prepared and waiting for the signal, is sent from the centre to the muscle of the hand. When the reaction has often been made the entire cerebral process becomes automatic, the impulse of itself takes the well-travelled way to the motor centre, and releases the motor impulse.[1]

I now go on to give the results of my experiments. I only give the determinations made on B (Dr. G. O. Berger) and C (the writer); I have made similar determinations on other subjects of different age, sex, occupation, etc., but these can be better considered after we know the results of careful and thorough experiments on practised observers. We have first to consider the simple reaction-time for light. When this was to be measured, all being in readiness, as described in the foregoing section, the experimenter said 'Jetzt,' and the observer fixated the point at which the light was to appear, and put himself in readiness to make the reaction. The experimenter then set the clock-work of the chronoscope in motion, and about one second afterwards caused the light to appear by means of the apparatus described. The observer lifted his hand as soon as possible after the appearance of the light, and the interval that had elapsed between the occurrence of the light and the commencement of the muscular contraction was read by the experimenter directly from the chronoscope. In no single case, as far as I can remember, did the observer make a premature reaction, that is, lift his hand before the necessary physiological operations had had time to occur. The only disturbance was caused by the clock-work of the chronoscope sometimes not being properly controlled by the vibrating spring. If the experimenter noticed this in time he did not produce the light. This occasional failure of the chronoscope was always noticed, so does not interefere with the accuracy of the times here given, but the observer was sometimes disturbed so that his reactions may have been made less regular. Throughout this paper I give every series and every reaction made; I give, however, in addition to each series, a corrected value reached by the method above described. This correction simply excludes all abnormal values. In the Tables I give the average of the variation of each reaction from the average of the series to which it belongs (V); that is, if A is the average of the n reactions

[1] This theory concerning the nature of the reaction would be none the less probable, though we suppose the centres for sensation and perception not to be distinct, or indeed that in the reaction the brain, in some mysterious way, 'acts as a whole'. In this paper I take it for granted throughout that mental states are due to changes in the brain. We know, however, but little as to the functions of the brain. I therefore make as few assumptions as possible, and these must be kept apart from the positive results, which it is the object of this paper to make known.

making up the series, and a_1, a_2, a_3, . . a_n are the values of the several reactions, then

$$V = \frac{(A - a_1) + (A - a_2) + (A - a_3) + \ldots + (A - a_n)}{n}$$

all the differences being taken as positive. The averages under R in the Tables (except when expressly stated) are taken from the 26 observations which made up the series, the averages under R′ from the 20 reactions of the corrected series. Table I. gives the results of twenty series, made at intervals during a period of six months.

TABLE I.

1885.	B				C			
	R	V	R′	V′	R	V	R′	V′
12. I.	140	10	141	8	144	12	143	8
	145	10	143	6	136	9	138	5
16.....	137	16	139	11	133	16	128	11
	156	10	155	7	147	15	150	11
30.....	131	13	131	9	149	9	151	6
	152	13	149	9	143	11	143	9
27. II.	148	14	147	8	146	10	144	7
	160	13	162	8	144	9	144	6
28.....	139	13	142	11	149	9	149	6
	161	15	163	9	146	9	146	5
	152	13	149	7	144	9	143	6
31. III.....	164	14	164	8	163	9	163	6
	151	10	153	6	150	8	151	5
3. IV.	133	16	132	11	143	8	144	5
	157	9	159	6	138	11	136	7
4.	165	13	170	9	161	9	163	5
5.	144	13	147	9	147	9	148	6
7.	168	9	170	5	148	17	148	9
2. VII.....	137	16	140	11	158	12	158	6
4.	152	13	155	9	140	14	145	9
A.....	150	13	151	8	146	11	147	7

The Table shows that the average of 520 reactions on daylight reflected from a white surface was, for B 150, for C 146σ; or, if the series are corrected by the method explained, the averages for both B and C become 1σ longer. The average of the mean-variation of the reactions from the series to which they belong was for B 13, for C 11σ; in the corrected series it becomes respectively 8 and 7σ. It will be seen from the Table that the series made at different times do not differ greatly from each other; the mean-variation of the twenty series is B 9, C 5. The reaction-time for practised observers is consequently quite a constant quantity; when a reaction is made it will only differ

about $\frac{1}{100}$s. from those preceding and following it, and less than $\frac{2}{100}$s. from reactions made on different days and under changed circumstances. I do not however lay much weight on the third decimal; if this investigation were to be repeated it is not likely that we should obtain the same results to $\frac{1}{1000}$s. When B's reaction-time for light is given as 150σ, I only mean that this was the result of these 520 reactions; in comparing this with other determinations where we wish to know the absolute length of B's reaction-time, we can best limit ourselves to saying that it is ·15s., or perhaps better still, between ·14 and ·16s.

In these experiments the reaction was made with the right hand. The time is the same with the left hand.[1] I give in Table II. the average of five series (130 reactions) made with the left hand on light and also on sound.[2]

Table II.

		B				C			
		R	V	R′	V′	R	V	R′	V′
Light....	3-7. IV.....	153	12	156	8	147	11	148	6
Sound...	3-7. IV.....	126	8	126	6	122	11	122	7

It is a matter which the later sections of this paper will show to be of special interest to us that the time is longer when the reaction is made with the speech-organs. To determine this time I used both the lip-key and the sound-key above described. In either case the observer said 'Jetzt' as soon as possible after the appearance of the light, and the motion of the speech-organs stopped the hands of the chronoscope in the way I have explained. The results of these experiments are given in Table III.

We thus find that it takes about 30σ longer to make the reaction with the speech-organs than with the hand.

I used an additional method of determining the reaction-time with the speech-organs. The observer as quickly as possible after the appearance of the light simply said 'Jetzt'; a second observer as soon as he heard the sound let go the telegraph-key, and this stopped the hands of the chronoscope. The hands recorded the time of a double reaction, that of the first observer on the light with his speech-organs, and that of the second observer on the sound with his hand. But we can determine

[1] Tischer, *Phil. Studien*, i., 534; Merkel, *Ib.*, ii., 88. Prof. G. S. Hall and Dr. Hartwell (Mind, ix. 93) do not seem to have known of the work published by Tischer and Merkel.

[2] The sound (as in all cases where the reaction-time for sound was measured) was made by a stone ball 22 gr. in weight, falling from a height of 33 cm. on the wooden base of the Hipp gravity-apparatus.

TABLE III.[1]

	SOUND-KEY.				LIP-KEY.			
	B		C		B		C	
	R	R′	R	R′	R	R′	R	R′
3. IV.	164	167	177	176	199	199	172	171
	161	159	165	165	185	187	173	173
5.	175	176	175	176	199	201	172	173
	170	168	175	172	189	186	177	177
7.	168	168	157	159	166	165	185	176
A.	168	168	170	170	188	188	176	174
AV.	19	10	16	10	11	6	13	8

the time of the second observer's reaction on the sound, and by subtracting this from the entire time, we have the reaction-time of the first observer with his speech-organs. When the average of several series is taken the error becomes very small. A further application of this method will be found below. For our present purposes it was to a large extent superseded by the use of the lip-key and sound-key. There are however certain difficulties in the way of using these instruments, especially in the case of inexperienced persons, children or the insane, for example. The method could further be applied to determining the reaction-time, etc., of the lower animals, and also the length of certain reflex processes where the motion can with difficulty be registered. I give in Table IV. the results of four series of reactions made in this way, Mr. H. Wolfe making reactions on the sound.

TABLE IV.

	B				C			
	R	V	R′	V′	R	V	R′	V′
7. 1	349	30	346	20	328	32	321	17
	330	37	332	23	327	24	326	14
30.	380	30	372	20	392	27	392	18
	357	32	349	19	393	25	393	16
A.	354	32	350	20	360	27	358	16

Mr. Wolfe's reaction-time on sound was about 150σ. The series made on 30 I. seem to have given rather long times, the

[1] To save space in this and some other Tables, I only give the average of the mean-variation for the several series (AV).

others correspond to those where the motion of the speech-organs was directly registered.

The length of the reaction-time depends on conditions which can be classified as belonging, partly to the sense-stimulus, partly to the reacting subject. It was my object in the experiments here under consideration rather to eliminate these sources of variation than to investigate them. I used therefore the same sense-stimuli and the same subjects. The only varying conditions were the changing states of the subject due chiefly to different degrees of attention, fatigue and practice. It seemed desirable thoroughly to investigate these owing (1) to the light they throw on the nature of the cerebral operation, and (2) to the necessity of knowing what influence they exert on the lengths of the processes investigated, before we can judge of the accuracy of our results. I can best postpone the full consideration of this subject until the end of the paper, but it will be of advantage before going further to consider the relation of attention to the length of the reaction-time. It has always been assumed that the length of the reaction varies greatly with different degrees of attention, and this is a natural supposition, when it is believed that the time is mostly taken up by the processes of perceiving and willing. If however the reaction is automatic, the changes not penetrating into the cortex of the cerebrum, then the time would not be greatly dependent on the concentration of the attention during the reaction. The reaction would however be delayed if the conditions were such as to make it difficult for the subject to hold the path of communication and motor centre in a state of readiness. The simplest way of distracting the attention is to cause a noise while the reactions are being made. I let three metronomes beat and ring rapidly. The results of these experiments are given in Table V. for both light and sound.

Table V.

	Light.				Sound.			
	B		C		B		C	
	R	R′	R	R′	R	R′	R	R′
2. IV.	149	150	162	159	122	120	121	118
3.	159	159	146	147	124	127	120	119
	152	152	144	142	126	124	128	127
4.	146	148	162	161	132	131	137	138
5.	155	155	168	170	119	119	125	124
A.	152	153	156	156	125	124	126	125
AV.	8	5	10	6	10	6	10	6

If these results are compared with those given in Table I. it will be seen that B's reaction-time for light was lengthened 2, C's 10σ. These increments are very small, falling in the case of B within the limits of the natural variation. The reaction time for sound was the same as when no distracting noise was present. Wundt[1] found the reaction-time to be considerably lengthened by a distracting noise. This was probably because the subjects had not learned to make the reaction as automatically as B and C. The experiments by Obersteiner[2] are scarcely such as to give accurate results.

The attention can be more thoroughly distracted if the brain is busied with some other operation while the reactions are being made. A good way to accomplish this is to let the subject beginning with any number add as rapidly as possible 17 after 17 to it. The attention can on the other hand be concentrated to a maximum degree by a voluntary effort of the subject. Many experimenters seem to have attempted this in all their reactions; Exner, for example, says[3] that although sitting quietly on his seat he would sweat with the exertion. In my experiments the attention was held in a state which I shall describe as normal; the subject expected the stimulus and reacted at once, but did not strain his attention or make special haste. We have thus three grades of attention: concentrated, normal and distracted.

TABLE VI.

CONCENTRATED.				NORMAL.				DISTRACTED.			
R	V	R′	V′	R	V	R′	V′	R	V	R′	V′
12.—25. II. 1884. B LIGHT.											
189	15	187	8	201	17	197	9	245	28	242	13
C											
158	17	156	10	132	16	133	9	153	19	151	10
27. II.—6. III. 1884. B ELECTRIC SHOCK.											
160	13	161	7	165	12	164	7	190	16	189	9
C											
147	14	147	8	150	15	150	9	184	21	184	11

[1] *Physiol. Psych.*, ii., 243.

[2] *Brain*, 1879.

[3] Herman's *Handb. d. Physiol.*, II., ii., 287.

The first experiments on this subject were made in the winter of 1883-4, before the chronoscope was properly controlled; the absolute times may be as much as 10σ wrong, but the relative times are correct. As a stimulus I used the electric light produced in a Puluj's tube, and an induction-shock of moderate intensity on the left forearm. In these experiments 15 reactions were

TABLE VII.

	CONCENTRATED.				NORMAL.				DISTRACTED.			
	R	V	R′	V′	R	V	R′	V′	R	V	R′	V′
	B LIGHT.											
27. II.	144	16	147	7	148	14	147	8	196	26	185	12
	131	11	130	8	160	13	162	8	186	26	183	19
28.	141	10	143	7	139	13	142	11	178	15	180	11
	137	8	139	4	161	15	163	9	179	16	179	10
	143	8	144	6	152	13	149	7	194	14	190	9
A.	139	11	141	6	152	14	153	9	187	19	183	12
	C											
27. II.	149	13	150	9	146	10	144	7	166	12	167	7
	149	7	150	4	144	9	144	6	154	16	156	11
28.	146	8	144	5	149	9	149	6	157	13	159	8
	146	12	144	8	146	9	146	5	154	9	155	6
	140	8	139	5	144	9	143	6	163	14	160	9
A.	146	10	145	6	146	9	145	6	159	13	159	8
	B SOUND.											
2. II.	132	7	132	5	157	11	157	8	193	26	189	13
	129	6	129	5	158	19	149	8	188	28	191	19
3.	127	14	129	4	155	14	152	7	174	12	173	8
	123	9	122	6	147	10	145	6	169	24	163	17
4.	127	7	126	5	138	9	139	6	188	24	183	17
A.	128	9	128	5	151	12	148	7	182	23	180	15
	C											
2. II.	129	12	126	8	145	10	140	6	166	18	162	12
	135	11	135	8	133	12	132	9	156	19	148	14
3.	125	12	127	6	141	11	140	8	158	15	161	9
	123	12	123	8	142	11	139	6	155	17	155	12
4.	131	11	126	8	136	10	133	5	157	15	153	9
A.	129	11	128	8	139	11	137	7	159	17	156	11

made in a series, 5 being dropped in the corrected series. The numbers in Table VI. give the average from 10 series.

Similar experiments were made in 1885, daylight and sound being used as stimuli. The averages given in Table VII. are as usual taken from 26 reactions.

I put together the results of these experiments in Table VIII., the time when the attention was normal being taken as 0.

TABLE VIII.

	B		C	
	Concen.	Distr.	Concen.	Distr.
Electric light	— 12	+ 44	+ 26	+ 21
„ shock	— 5	+ 25	— 3	+ 34
Daylight	— 13	+ 35	0	+ 13
Sound	— 23	+ 31	— 10	+ 20
A.	— 13	+ 34	+ 3	+ 22

It will be noticed that when the brain is otherwise occupied the reaction is lengthened, though not to a great extent. The time is however but little shorter when the subject makes a great exertion to react quickly than when he makes the reaction easily and naturally. These experiments support the hypothesis that a reaction is an automatic act, only needing the activities seated in the cortex to prepare its way. A noise did not in the case of B and C so disturb the subject as especially to interfere with the placing in readiness of the parts of the brain concerned in making the reaction. If the brain was busied by adding 17 after 17, it could not so well put the lower centres in readiness, and the time of the reaction was lengthened. On the other hand a great effort of the will could only slightly shorten the reaction by holding the path of communication and motor centre in a state of more unstable equilibrium.

There is still another way of distracting the attention. When the time of normal reactions was measured the stimulus came about a second after the signal (*i.e.*, the starting of the chronoscope), so the brain parts could be put in a state of complete readiness. It might be expected that we could not hold these parts very long in a state of unstable equilibrium, and experiments show this to be the case. Instead of always letting the stimulus occur from $\frac{3}{4}$ to $1\frac{1}{4}$ sec. after the signal, I let the maximum interval be about 2 secs., and obtained the results given in Table IX.

The averages show that the attention can be held strained, that is, the centres kept in a state of unstable equilibrium for 1 sec. B's time is slightly shorter than normal; this is probably

TABLE IX.

	B				C			
	R	V	R′	V′	R	V	R′	V′
27. II.....	148	10	149	7	155	9	155	5
	136	9	139	6	147	11	148	6
28.....	139	9	139	6	143	12	142	6
	156	10	154	6	157	11	158	7
4. IV.....	146	16	145	10	162	12	159	8
A.....	145	11	145	7	153	11	152	6

because he strained his attention more, and thus held the centres in more unstable equilibrium than usual in spite of the longer interval. C's time, on the other hand, is slightly lengthened, concentrated attention not shortening his times, and the delay interfering with the maximum of readiness. In like manner the interval between signal and stimulus was varied at the pleasure of the experimenter between normal and fifteen seconds. The experiments recorded in Table X. were made with both light and sound.

TABLE X.

	LIGHT.				SOUND.			
	B		C		B		C	
	R	R′	R	R′	R	R′	R	R′
27. II.....	200	198	170	168	184	173	174	169
28.....	204	196	164	164	176	173	167	166
	168	161	wanting.		168	164	154	147
4. IV.....	159	158	184	181	171	171	173	166
5.....	178	174	174	176	158	159	170	166
A.....	182	177	173	172	171	168	168	163
AV.....	22	14	16	11	23	13	22	13

It will be seen that the times are considerably longer than normal; the mean variation is also large.[1] The first series made

[1] On two occasions with B, I varied the series on sound with results worth noting. I let towards the end of the series the interval between signal and stimulus become regular and normal. B did not notice that any change in method had taken place, but his reaction-time after the first two trials became 40σ shorter. That is, without any conscious effort, the brain-parts concerned were put in the usual maximum state of unstable equilibrium.

on B gave especially long times; afterwards he learned to accommodate himself better to the conditions. All these experiments show that in the case of C the reaction is more thoroughly reflex than in the case of B. Contrary to my expectation the reaction on sound seems to be more lengthened by distracting the attention than the reaction on light; it requires less effort to react on the sound, the reaction seeming to take place quite of itself, and we know that it is easy to make motions in time to sound-rhythms.

I made further series of experiments in which 'Jetzt' was said and the chronoscope was set in motion as usual, but the light was produced only half the time. My thought was that the subject could not put his brain-centres in the maximum state of unstable equilibrium, lest the motor impulse should be discharged in the case where no stimulus was forthcoming. The averages in Table XI. are from 13 and 10 reactions, as measurements were only made in half the experiments of the series.

TABLE XI.

	B				C			
	R	V	R′	V′	R	V	R′	V′
27. II.....	153	18	147	10	174	22	165	8
	148	10	148	6	166	18	160	8
28.....	154	23	148	15	142	6	143	5
	165	20	157	10	154	12	156	6
	157	9	156	7	153	12	150	8
A.....	155	16	151	10	158	14	155	7

The delay here caused is related to the will-time to be considered later on.

From these experiments we see that ordinary degrees of attention do not greatly affect the length of the reaction time. We find, further, grounds for assuming that the cortex is not concerned and that perception and willing are not factors of the reaction-time. It is not necessary to perceive the stimulus before the motor centre can be excited; and the willing—not of necessity given in consciousness—is done before the stimulus occurs, and consists in setting the brain-parts concerned in a state of readiness.

(To be continued.)

VI.—DISCUSSION.

HABIT AND PROGRESS.

By Alfred W. Benn.

In the recently published work of Sir Henry Maine on *Popular Government*[1] there is one chapter which trenches on the sphere of mental philosophy, and which therefore offers a fitting subject for discussion in Mind. This chapter is entitled "The Age of Progress" (pp. 127-95), and suggests by its heading the point to which I wish to call attention. For, unless I very much mistake his meaning, Sir H. Maine would maintain that Progress in the sense of continuous improvement, so far from being what most of us have hitherto considered it to be, the very law of history, is merely a local and temporary phenomenon, destined perhaps to be succeeded at no distant date by a stage of immobility or retrogression. It is true that the author's views are expressed in language so tentative, so ambiguous or so vague, and are hedged round with so many limitations, that the general drift of his argument is by no means clear. By Progress he sometimes seems to understand no more than change, and by change the desire to have things altered rather than the objective fact of their being altered quite independently of our wishes on the subject; while again, the passion for innovation is supposed to prevail only within the sphere of legislative activity. Still the following passages point to conclusions of a much more sweeping character:—

"An absolute intolerance even of that description of change which we call political characterises much the largest part of the human race, and has characterised the whole of it during the largest part of its history. Are there any reasons for thinking that the love for change, which in our day is commonly supposed to be overpowering, and the capacity for it which is vulgarly assumed to be infinite, are, after all, limited to a very narrow sphere of human action, that which we call politics, and perhaps not even [*sic*] to the whole of this sphere?" (p. 136).

"The natural condition of mankind (if that word 'natural' is used) is not the progressive condition. It is a condition not of changeableness but of unchangeableness. The immobility of society is the rule; its mobility is the exception. The toleration of change and the belief in its advantages are still confined to the smallest portion of the human race, and even with that portion they are extremely modern. . . . When they are found, the sort of change which they contemplate is of a highly special kind, being exclusively political change" (p. 170).

In discussing such questions as the present it is important to define our terms. Sir H. Maine professes never to have seen any definition of the word Progress (p. 131); which looks as if he had

[1] *Popular Government:* Four Essays. By Sir Henry Sumner Maine, K.C.S.I., LL.D., F.R.S., &c. London: John Murray, 1886. Pp. xii., 261, 8vo.

never cared to examine the works of thinkers so well known as Auguste Comte and Mr. Herbert Spencer. However, to make up for the deficiency, he offers us as his own definition "the continued production of new ideas" (p. 191). But this seems at once too wide and too narrow. Too wide; for to constitute a step in advance an idea ought surely to be true as well as new. Too narrow; for certain changes not involving any new idea are universally admitted to be elements of progress. For example, 'the gratifying diminution of crime,' about which we hear so much, is, if real, an unquestionable social advance, although it does not in the least enlarge our intellectual horizon. On the whole we may fairly assume that whatever contributes to the increase of happiness is an element of progress; and that the totality of such contributions constitutes the sum of social progress. Experience shows that the specific means to this paramount end are increase of knowledge, increase of power and increase of goodness; including of course under the notion of increase the decrease of their opposites, ignorance, weakness and vice, and measuring it by the degree of diffusion no less than by the degree of accumulation. Now, if the philosophy of evolution proves anything at all, it proves that progress so defined has been continuous either in part or whole throughout the entire duration of human history, and, in a wider but still an analogous sense, throughout the history of organised life since its first appearance on the globe; while continuous change of some kind, whether or not it should be called progress, is equally characteristic of the inorganic universe. At any rate, the burden of proof is not on those who assert but on those who deny the existence and perpetuity of such a process.

Furthermore, so far as organised structures are concerned, the Darwinian theory comes in to prove that this great law is no mere empirical generalisation, but a necessary consequence of simpler laws. For, granting there to be no inherent tendency to improvement in the various forms of life, individual or associated, the forms enjoying some accidental superiority multiply at the expense of the less favoured, which they eventually supplant.

Nor is this all. The age in which we live is remarkable not more for the number and variety of advances, scientific, mechanical, social and moral, that it has seen achieved, than for the fact that in it the process of universal evolution has, so to speak, become conscious of itself; and this self-discovery has excited to the utmost men's hopes of future development. For not only is it expected that the agencies to which we owe so much will continue in operation for an incalculable time, but also that, by being understood and artificially stimulated, their rate of operation may be indefinitely accelerated. Thus what Sir H. Maine considers an unreasoned, if not an unreasonable, enthusiasm for change as such and only in the direction of political revolution is really enthusiasm for change in the right direction throughout every order of human activity. If reformers

look forward with confidence to the establishment of more salutary institutions and to the enactment of more beneficent laws, they count with even greater confidence on the attainment of a still higher perfection in the arts of communication and locomotion, of nutrition and education, of attack and defence.

But "the truth is" (to use a favourite phrase of his own) that Sir H. Maine, while he has made special contributions of great value to the theory of evolution, never seems to have grasped that theory as a whole, nor fairly to have faced its implications. His is a pre-scientific mind. His earliest laurels were won in a campaign against the metaphysical idea of Nature, and his dislike for that idea has driven him to the opposite pole of thought. I have elsewhere endeavoured to show that, when the idea of Nature first came into prominence, it was met by the counter-idea of what the Greeks called Nomos, that is to say, convention, custom or subjectivity; and that this became the rallying point of a school whom I have called Humanists, but who are perhaps most generally known as Sceptics. The note of this school is an excessive dependence on the unanalysed opinions and feelings of mankind, whether individual or corporate, and an equally excessive estimate of the part played by voluntary effort or chance in shaping the course of human affairs. Thinkers with such a bias still attribute much more importance to the arbitrary and accidental elements in history than those of the opposite school. This, it seems to me, is the characteristic weakness of Sir H. Maine. Traces of a similar tendency crop up now and then in the writings of a still more eminent thinker, John Stuart Mill. Mill also was a great enemy of Nature; but, remarkably enough, he made war on her in the interest of those democratic tendencies which the author of *Popular Government* watches with such distrust and dislike. Finding certain social arrangements, which to him seemed highly inexpedient, consecrated as natural and therefore indefeasible, he sought to prove, and, in my opinion, did prove, that natural is not synonymous with right. The two publicists also agree in attributing to forms of government a great influence on human happiness. But, while to Mill the enfranchisement of classes hitherto excluded from political power meant the promise of new and valuable additions to the existing stock of ideas, to Sir H. Maine it threatens the possible extinction of originality and the loss of what has been gained under a monarchical or aristocratic *régime*. For, according to him, progress, whatever else it may mean, means change of some sort, and change runs against the grain of average human nature, even continuing to be unacceptable for some considerable time after its introduction. With this point we enter on the very heart of the discussion.

In order to prove the profound unpopularity of change much stress is laid on the force of Habit; the repulsion excited by what we call bad manners is ascribed to the same inbred conservatism, while the evidence of Oriental races and of women in all countries

is invoked to establish its existence. After studying this imposing array of arguments, one feels inclined to exclaim, 'You have convinced me that progress is impossible!' Nor would our author be easily brought to admit that he had committed the fallacy of proving too much. By a rapid and brilliant series of parallels he shows or attempts to show that after all there is not much difference between the civilised man and the savage (p. 143). On the whole, however, it may be assumed that a state of civilisation as much superior to ours as ours is to the condition of the Fuegians or even of the Zulus would constitute a considerable step in advance. And if we are moving towards such a state the cause of the modern reformer is gained.

It seems then that a fallacy, or possibly more than one fallacy, must lurk in the argument. To begin with, the force of habit is enormously exaggerated, as also is its antagonism to progress. Granting, what is not true, that individual habits are unchangeable, the habits of a race stand on a different footing, being easily modifiable in the course of transmission from one generation to the next. Such a modification is greatly facilitated by the circumstance that a complete change of habits must be submitted to three or four times in the course of an ordinary life—on going to school, on entering society, on adopting a profession, on marrying. The voluntary acceptance of one change involves many others from which there is no escape. Again, by submitting to a single change, we may be enabled to perform a number of customary actions with greater ease or greater security from interruption. The substitution of railways for stage-coaches involved a great change in the habits of travellers; but owing to the increased rapidity of locomotion they were enabled to resume their ordinary occupations within a shorter period. So any reform that diminishes the risk of arbitrary government, war, pestilence, famine, crime or other disturbance is so much gain to habits of steady industry. Nay, change itself may become a habit, as we see in the case of those excursions to the sea-side or the mountains annually undertaken by whole families at the cost of much temporary inconvenience and discomfort; the habit of some being to visit a different locality every summer. Among educated people there has grown up a habit of expecting some new invention or discovery to be made at pretty frequent intervals, and some disappointment is expressed if they have to wait for it long.

With regard to manners, Sir H. Maine is led by his characteristic exaltation of arbitrary convention completely to ignore the reasons on which they are founded. To believe him, we feel disgust at what are called bad manners simply because we are unused to them. This is indeed putting the cart before the horse. Good breeding becomes a habit in time; but it begins with a deliberate preference of certain actions as less repugnant than others to our innate or acquired sensibilities. There are ways of eating which betray complete enslavement to the animal instincts; there are others associated with an imperfect adjust-

ment of means to ends in the management of the implements devoted to that purpose. It is as such that they offend us, not because they are unusual, for the contrary is too often the case. On this point we can appeal to a most incontrovertible sort of evidence, that which is supplied by the respective attitudes of the parties concerned. When what we call ill-bred and well-bred people are brought together and seated at the same table it is the taste of the latter only that is offended; and the same remark seems to be true of persons belonging to nationalities occupying different grades of civilisation, but holding certain general notions of decorum in common. The ordinary Cappadocian mode of employing a knife, fork and napkin is profoundly repugnant to the Lesbians, whose manner of eating is on the other hand regarded with indifference or even with admiration but never with disgust by their Continental neighbours. It is the same with pronunciation and grammar. There is a certain standard recognised by all educated persons, and of this a rational account can be given. It is habitually disregarded by the majority of the people, yet correct speaking never offends them, however unfamiliar it may be to their ears. It is only misplaced aspirates and violated concords that are visited with ridicule or contempt. As Mrs. Carlyle would have said, the reciprocity is all on one side. Custom merely strengthens a feeling that it did not create. Of course there are cases in which disregard of a purely arbitrary rule calls forth expressions of dislike, sometimes amounting to actual hostility, among those by whom it is habitually observed. But here a breach of etiquette, in itself innocent enough, is presumed to argue either want of education or unfamiliarity with the society in which painful impressions are most carefully avoided and pleasurable impressions most sedulously fostered. Thus in the last analysis we find not blind adherence to custom as such but a most reasonable preference of good to bad customs among some, and a certain *vis inertiæ* retarding or preventing their adoption by others.

The argument that progress or change of any kind is distasteful to great numbers, perhaps to the great majority of human beings, would have more weight were it addressed to an inhabitant of Jupiter or Saturn without the means of discriminating between Europeans and Asiatics. As it is, we might as well argue that yellow or dark skins and straight or woolly hair were more essentially human than fair complexions and wavy locks, because the latter belong to a minority of the earth's population. Moreover, in determining the general character of human nature it is less legitimate to reason from the east to the west than *vice versâ*. For, while the one has been constantly moving the other has not been always stationary, and even now offers some symptoms of awakening from its secular torpor. Meanwhile the enthusiast for progress rests his hopes on the vitality of liberal ideas in Europe and America, even should they be destined never to extend beyond those regions. So with the alleged conservatism of women. Put

this as high as ever you please, and the inference will still remain irresistible, that, having advanced so far without their help or even in spite of their opposition and, what is more, having compelled them to follow us, we shall be able to pursue our onward journey with no more difficulty than before.

But the evidence offered for this intensity of female conservatism is such as to make us doubt its reality; for a cause which so powerful a logician can defend by no stronger arguments than are here adduced must be weak indeed. Apart from the commonplaces of the subject, most stress is laid on two considerations: the constancy of women as evinced, among other authorities, by English fiction, and the character of that fiction itself. The first argument is entirely beside the question, for constancy is a virtue even more necessary to the friends of progress than to its foes, and just as likely to be exercised on its behalf. The second argument must detain us longer. English fiction, we are told, while "ever more written by women and read by increasing multitudes of women" (p. 141), is inseparably wedded to old-fashioned ideas. Studied alone, "the very last impression it would produce would be that we had lived in an age of feverish progress" (p. 140). A more astounding assertion has seldom been made. For, considered simply as an art, English fiction has passed since the beginning of the century through various stages of evolution involving vast and continuous changes in the choice of subjects, in the mode of treatment, in the underlying conception of life; while in this evolution at least two women have played a decisive part. And, besides this movement of its own, English fiction has reflected every other contemporary movement, practical or speculative, the ambition of the most recent writers being to reproduce with photographic fidelity every tendency of the time. With regard to the opinions of the novelists themselves we have Sir H. Maine's own authority, if any authority be needed, for the fact that Dickens, the most popular writer of his age, devoted his life to the reform of abuses (p. 153); and Mr. Wilkie Collins, whom a recent plebiscite has declared to be the most popular of living novelists, has followed in the same track. Among the most distinguished lady-novelists of the day, at least one is a democrat, a socialist and an agnostic; and, speaking generally, no motive is more hackneyed than the exaltation of the poor at the expense of the great, the titled and the rich. It is true that ridicule is sometimes thrown on reformers; but that is because the novelist makes it his business to exhibit the ludicrous side of everything, and a laugh is at least as often raised at the expense of bigotry and obstruction as of needless or precipitate subversion.

The fact that women change the fashion of their dress much more frequently than men seems at first sight somewhat inconsistent with the theory that they are absolutely intolerant of innovation. Sir H. Maine notices the objection, but is ready with an explanation. What we call new fashions, he tells us, are not

really new but the revival of some ancient mode. Thus an apparent exception is triumphantly used to prove the rule. Such a method of reasoning looks very like a vicious circle. The supposed repugnance of human nature to progress was first inferred from its adherence to habit and custom; then, when we show that half the community—and that too the half claimed as the more conservative—constantly indulges in changes of the most conspicuous kind, we are told that the change is not progress but oscillation. Sir H. Maine refers to the fact that certain figurines discovered at Tanagra represent women draped in a style somewhat resembling the fashions of the present day. Does he suppose that the drapery thus unconsciously revived was any the less unfamiliar to his own countrywomen at the time when it was first introduced among them from its having been worn twenty-two centuries ago by Greek ladies? This would be interpreting the "eternal feminine" in an over-literal sense. At any rate most if not all the Radical measures now proposed have their parallels in ancient history, so that on the Tanagra-figurine-principle they ought to be secure from feminine opposition.

The truth is that one need only walk down the nearest street with open eyes and ears to be convinced that women are quite capable of accepting an improvement or change—call it whichever you will—involving a considerable break in the routine of their daily life. Either an enormous poster setting forth the advantages of somebody's sewing-machine, or the whirring sound of the instrument itself in actual operation, will remind us of a most important revolution in domestic industry, effected to all appearances without exciting the slightest opposition on the part of the class most interested, forming as it does a large proportion of the female population. Unquestionably the prejudices of women are enlisted, to a greater extent than those of men, on behalf of authoritative methods both in life and thought. But this tendency would, if anything, prepossess them in favour of that more active legislation which the author of *Popular Government* tries to exhibit as directly at variance with the conservative spirit of the masses.

If there is any force in the foregoing considerations they seem to show that the average European mind entertains no insuperable or deep-rooted hostility to progress or even to change as such. And from this it follows that the advent of the majority to political power need not necessarily be signalised by the reversal or cessation of that continuous onward march which has hitherto characterised our western civilisation. But there are still more decisive reasons for cherishing such a hope. Had the majority been anti-progressive there are other ways besides parliaments and ballot boxes through which they could have made their will be felt. It is forgotten that each new invention and discovery has been submitted to a plebiscite not the less authoritative from being informal and silent. The discovery can only be established

by gaining credence; the invention can only survive by gaining custom. No general council or supreme pontiff has made faith in the earth's motion binding on the popular conscience. No despot or aristocratic senate has given a monopoly to printing-presses and steam-engines. These and all other products of creative originality could have been stifled at their first appearance by the simple process of 'boycotting' them, had the people cherished that irrational suspicion of novelty attributed to them by Sir H. Maine. And one fails to see why the people acting in their corporate capacity as legislators should exhibit a stupid intolerance quite alien to their character as individual customers and consumers.

The perpetuity of progress is a result suggested by history, in harmony with the dynamic law of nature and inevitably guaranteed by the survival of the fittest; nor do any empirical observations on the mental constitution of man really lend countenance to an opposite conclusion. Nevertheless there are certain considerations very different from those indicated in *Popular Government*, leading us to suppose that the rate of progress is liable to retardations or disguises rendering it imperceptible through long periods of time. First of all, it must be remembered that, while the diffusion of the means of happiness over a wider surface is no less truly a mode of progress than their accumulation within a single class of the community, it is often a much less brilliant and interesting process, and consequently sometimes escapes the notice of political observers. Thus to make the whole population of Europe participators in the gains of Græco-Roman civilisation was a long and laborious operation, sufficient while it lasted to engross all the available energies of humanity. To treat the thousand years or so which elapsed between the age of the Antonines and the earliest Renaissance as a period of decay and barbarism is to ignore this important fact. And it may be asked whether the so-called immobility of India and China is not conditioned by an analogous elevation of less advanced to an equality with more advanced races. For, although it would be rash to say that the two processes of accumulation and diffusion vary inversely as one another, there seems to be a more or less fluctuating balance of compensation between them. For example, the striking dearth of original production among ourselves, and indeed throughout western Europe, at the present moment becomes explicable only when viewed in connexion with the efforts simultaneously made to raise the condition of the lower class and to improve the education of all classes.

Now, supposing these benevolent efforts to be continued and eventually crowned with success to the extent, let us say, of establishing among our own labouring population such a degree of comfort as already prevails in our Australian colonies, with the prospect of no more rapid increase of its numbers than is observed in France; then the general contentment might

prove a serious barrier to further progress. For if, as French peasants say, *le mieux est l'ennemi du bien*, it may also be said that *le bien est l'ennemi du mieux*. It may be asked why "the continued production of new ideas" should not go on as before, or even with accelerated speed. The answer is, I conceive, that intellectual activity is derived from the energy accumulated in the course of a prolonged struggle with the difficulties of material existence, and suddenly set free by the abatement of those difficulties for employment in a higher sphere.

Again, with a greatly augmented store of knowledge, a vast multiplication of useful arts, and an increased complexity of social arrangements necessitating increased intelligence and activity on the part of the governing classes, together with increased docility and co-operation on the part of the governed—the work of preserving and transmitting what was already won might leave no surplus of energy available for adding to the store. The constant complaints of overstrain and the death or permanent disablement of so many young men who have sought to combine tuition with original investigation seem to show that this is no imaginary danger.

Finally, there is a possibility, though certainly at present only a remote one, that a single language, a single race and a single type of civilisation may drive out or absorb all others over the entire surface of the habitable globe. For if there is one lesson more than another taught by history, it is that intellectual progress is not continuous in any single community, but has to be taken up in turn by different members of the human family, and is conditioned by their mutual reaction. The records of literature, art and science show that no great efflorescence of national genius lasts very long, and that each is distinctly traceable to an impulse received from without. The immense productivity of ancient Hellas and mediæval Italy was doubtless due in great part to their division into a swarm of rival commonwealths possessing rapid means of intercommunication, while widely contrasted in their physical surroundings and spiritual traditions. It is obvious that with such an effacement of national characteristics as is here anticipated this source of stimulation would be lost. The mental condition of mankind would then resemble the dynamical condition of matter known, I believe, to physicists as entropia, that is, the uniform distribution of heat over space, —an arrangement which, so far as can be foreseen, would put an end for ever to cosmic evolution. It seems likely that the realisation on a small scale of such a condition may have much to do with the stagnation of Oriental races, separated as they are by physical and linguistic barriers of the most impassable description. It would, however, be folly to concern ourselves seriously about an eventuality whose approach can be neither verified nor delayed, and which may after all be compatible with an assured well-being more than equivalent to the labour spent by all previous generations as a condition of its attainment.

VII.—CRITICAL NOTICES.

A Handbook of Psychology. By J. Clark Murray, LL.D., F.R.S.C., Professor of Mental and Moral Philosophy, M'Gill College, Montreal. London: A. Gardner; Montreal: Dawson Brothers, 1885. Pp. x., 422, cr. 8vo.

In his prefatory note Prof. Murray intimates explicitly that his work is designed solely as an introduction for students to psychology, and he is certainly entitled to claim that any estimate of its contents shall bear in mind the limits so imposed. No one who has any acquaintance with the present state of psychology would hesitate to admit with Prof. Murray that "there are problems, still unsettled, which affect even the fundamental principles of the science"; and to allow that obstacles of a very serious kind beset any effort to expound the subject in an elementary fashion. So much is this the case, that one's interest in an elementary treatise concerns mainly the method adopted for overcoming the inherent difficulties of the treatment. In this country, what has been called psychology has acquired by tradition the place of propædeutic discipline for philosophy generally, and for one reason or another it has been insisted that, whether or not psychology be the fundamental philosophical science, it is only through the portal of psychological analysis that the student can be safely introduced to the temple of speculation. In defiance of traditional nomenclature, however, one might maintain that the propædeutic analysis commonly described as psychology, the merits of which need not be called in question, is not psychology at all, does not involve the special notions that characterise psychology as a science, and rests but little if at all on psychological analysis of mind. Further, it may fairly be contended that when there are taken into consideration the kind of problem that a scientific psychology has to attempt, the means at our disposal for attacking it, and the success that has hitherto attended efforts at its solution, no subject can be deemed less well adapted for introductory purposes, no subject lends itself more grudgingly to elementary treatment. In saying so, I am by no means insensible to the weighty argument by which in this Journal the tradition of the English psychological method of approaching philosophy has been enforced and defended. I fully admit that in following up psychological analysis the investigator may be brought in contact with all the deepest problems of general philosophy; but then exactly the same must be said of every separate philosophical science, and to say it is merely to emphasise the fact that philosophy is, so to speak, a closed circle. From whatsoever point one starts, continuous progress will involve in the long run just the problems that would be faced had one started elsewhere.

No divisions within philosophy are absolute. Separation of one branch from another rests merely on restriction of aim, on adoption of some particular point of view. But so soon as it is acknowledged that relative divisions within the sphere of philosophy as a whole are to be admitted, it becomes barely possible to find any other ground of division than the purely logical one: the order of the parts should correspond to the involution of the notions implied. The complex, that in the isolated statement of which manifold assumptions are inevitable, cannot be regarded as the fundamental, and its treatment cannot be looked upon as that to which all others refer. That the matter of psychology occupies this position of highly complex object is hardly, I think, denied. That the psychologist has to employ from the outset certain notions and to draw certain distinctions, justification of which has either to be found elsewhere or in his own science if he allows it to expand till it becomes synonymous with philosophy at large,—an expansion, as before said, perfectly intelligible,—this, too, seems generally admitted. Probably any opposition to it rests on the common but illegitimate identification of 'subjective' with 'psychological'; an identification, however, peculiar to the English tradition, and not to be found in any of the great constructive philosophies, either ancient or modern.

At the same time it may be contended—and the truth of the contention in its general terms must be unhesitatingly granted—that the logical order of the several branches of philosophy does not determine their didactic order. We are familiar, in respect to the objective sciences, with the practical application of the Aristotelian maxim, and we make no hesitation there in employing a partial presentation of some body of truths, adapted to the stage of mental power rather than to the systematic relation in which it stands to the whole. The same practice, it may be claimed, should be followed in philosophical education. Let us begin there with what is nearest to the learner's own experience, in the hope that the treatment, though admittedly imperfect, will form the basis on which a more complete view may afterwards be rested. Even if a complete view of the elements, processes and forms of development of the mental life be not capable of presentation as an introduction to philosophical reflection, why should not the same hold good in respect to psychology that is acknowledged in regard to, say, theoretical physics, or botany? Elementary mechanics is intelligible as an introduction to the higher researches, and can be presented in a fairly systematic fashion. The student of botany begins with concrete facts, and gradually pushes onwards to insight into the naturally prior laws, elementary statement of which is impracticable. Why should there not be an empirical introduction to psychology, a general treatment of the well-marked and familiar distinctions in the forms and stages of the mental life—a treatment confessedly imperfect, yet sound within its own limits, and

through which the more recondite problems might advantageously be approached? It may even be said—psychologists have not been backward in saying it—that relatively to mind the learner is placed in an unusually favourable position, for he has his raw materials, so to speak, at command. I would not deny that we are thus able to form the idea of a relatively elementary handling of the problems of psychology; but it seems to me that there are greater difficulties to be overcome than the argument allows to appear, and that the admission is far from settling the question as to whether psychology in its elementary form is the natural and best introduction to philosophical culture. On the first of these two points a single remark may be permitted.

The habitual knowledge of mind with which we start in psychology or in any philosophical discipline seems to me to impose obstacles rather than to afford aid to psychological analysis. Experience, practice and language have brought about a multiplicity of distinctions familiar enough to us in our direct, non-reflective knowledge of mind. Of the facts so distinguished we become aware not through knowledge of the differing mental processes involved in them, but mainly through differences in the immediately apprehended contents of the various experiences. Recognition of such differences is often called psychological analysis, and a philosophical treatment which involves them is often said to be based on psychology. This is hardly correct; subjective recognition of a distinction in the content of two experiences does not imply either the attitude peculiar to psychology or the ultimate aim characteristic of that science. For example, the distinction in the Kantian philosophy between Intuition and Notion, between Sense and Understanding, is often called psychological, whereas it appears to be based solely on the directly recognised differences in apprehended contents, and to be independent of any special explanation as to the mode in which, in the individual concrete life of mind, the several ultimate factors combine in producing a definite result. Now all such differences become fixed in language as specific mental processes; they are the familiar *powers* or faculties of mind, a term not at all inappropriate when taken within the sphere where the differences manifest themselves. But as regards psychology proper, they are obstructive abstractions; and though psychologists have long been in agreement in rejecting the ill-formed theory of faculties, they have not always insisted on the total change of attitude which is involved in passing from these abstractions to the analysis of the real processes making up the mental life. It is possible that a series of analytic studies which should start from the familiar ground of our theoretical or practical experience, and work backwards to a statement of what is needed for psychological explanation, might form an excellent introduction to psychology: it is certain that any elementary but systematic treatment of mind will find itself in continual danger if the essential distinction be-

tween the two modes of viewing mental activities be not kept in sight from the first.

It appears to me that Prof. Murray's praiseworthy volume furnishes unmistakeable evidences of the risks just alluded to. The position it occupies is midway between general subjective analysis and psychology in the stricter sense—midway, *e.g.*, between such treatments as that of Hamilton and that of Herbart or Lotze. It has the merits and defects of its position. Like Hamilton's *Lectures*, it is an excellent and stimulating introduction to reflective philosophy in general, but it endeavours also to be a systematic psychology, and the two functions can hardly be discharged simultaneously. Where the attitude is least that of the psychologist proper, Prof. Murray is at his best; the sections on the Feelings, on Idealisation, and the briefer discussions of visual perception and of the *primum cognitum* are admirable specimens of his expository method. Where the business is peculiarly the analysis of the forms of mental processes, Prof. Murray does not seem so successful. The section on the Will, and in particular the meagre notice accorded to the function of Comparison, but poorly represent even the present incomplete state of our knowledge. It is, however, the structure of the whole work that illustrates most pointedly the peculiar difficulty in which his treatment has involved him,—a difficulty, as I think, due to quite general causes. Prof. Murray adopts a division, beginning to be familiar to us, into General Psychology, a treatment of the elementary factors and fundamental processes of the mental life, and Special Psychology, the handling of the more complex forms which come forward in the development of mind. Under the first falls the consideration of Sensation and of the processes of Association and Comparison; under the second, Cognitions, Feelings and the Will. The author shows himself fully aware of the extreme difficulty of defining an elementary fact or process of mind, but he contents himself, in regard to Sensations, with a condensed and on the whole not unsatisfactory summary of the familiar psychological propositions respecting sense-presentations. In regard to Association, his treatment, which is both interesting and instructive, concerns rather the laws of suggestion among formed *Vorstellungen* than the ultimate links of connexion through which continuity, coherence and development in the mental life become possible. The section on Comparison is quite unsatisfactory, merely refers to the three logical laws of thought, and, when viewed in conjunction with the later sections on Generalisation and Reasoning, can only be interpreted as signifying that Prof. Murray has not yet brought his logical training into any intimate relation with his psychology. Now, were one to take Prof. Murray's general assertions regarding these elementary facts and processes literally, we should understand him to mean that out of the qualitative differences, quantitative changes and variations in the conditions of the origination of Sensations,

taken in connexion with the laws of Association and Comparison, the character of the more developed forms of mental life is explicable. Nothing can be further from his real view. The value of these elementary facts and processes is as nothing compared with the importance of certain other contributions, notice of which is only extended in connexion with the treatment of the more complex mental forms. Thus we gradually discover that, in Prof. Murray's view, recognition of Self is an elementary factor of mind, and that through its existence only can there be explained the transition from Sensation to Perception; that Space- and Time-quality in the content apprehended by sense (*Räumlichkeit* and *Zeitlichkeit*, terms for which English equivalents are much needed) are likewise contributed to, not given in and by, the elementary facts and processes; that "the act of intelligence, by which we are conscious of sensations, projects these into an objective sphere, transmuting them into qualities of objects, and thus forming out of them a world that is not ourselves"; finally, that the thought of an "essential connexion, so that the one cannot appear without the other, is a new thought, wholly different from either or both of the terms in the sequence". In fact we learn that all the more important factors in mind have been excluded from the review of elementary data and processes, and that these elements, if to be retained as constituents arrived at by analysis and abstraction, are actualities in mind only as parts of processes much more complex than themselves. Such a result, it seems to me, is natural and inevitable, if one tries to force into the mould of a systematic psychology, materials, the character of which has been determined on quite other than psychological grounds. It is perhaps a concomitant effect of the same cause that Prof. Murray should have omitted so much that recent researches have shown to be of psychological importance: the nature and development of attention, the conditions of localisation, the recognition of the body and of its distinction from extra-organic things, the origin and development of the sense of individuality, the common elements involved in the series of processes designated simply Knowing, Feeling and Striving.

If, however, one cannot recognise in Prof. Murray's book a method of treatment that is truly and successfully psychological, it by no means follows that his work has not high merit as a general introduction to philosophy. Such merit it seems to me undoubtedly to possess. It is written in excellent style and with a genuinely philosophical spirit; that it should not contain a thorough investigation of the notions and method peculiar to psychology is certainly not to the detriment of the purpose which it has in view.

ROBERT ADAMSON.

The Larger Life: Studies in Hinton's Ethics. By CAROLINE HADDON. With some unpublished Letters of JAMES HINTON. London: Kegan Paul, Trench, 1886. Pp. xviii., 217.

This little volume will be welcome to those, and they are many, who wish for some additional light on the philosophical and ethical views of James Hinton. The author, Miss Haddon, is specially qualified for the task, from the close intimacy which subsisted for many years between herself and the lamented writer whose views she represents. The selected Letters contained in the Appendix, which are one of the most interesting features of the present volume, form part of a correspondence between them, some being hers but most his.

With the exception of these letters and of two papers in the body of the work, "An Analogy of the Moral and Intellectual Life of Man," and "What we can know," which have been already printed in *The Art of Thinking*, the volume consists of papers which give in the author's own words, or in one instance in the record of a dialogue with third persons, an independent sketch of the main points of Hinton's philosophy. And this throwing into shape, by a disciple, of what in the master's own writings has a certain indefiniteness of outline, cannot but prove a boon to those who would correct or verify their own impressions as to the real drift and burden of the theory as a whole.

The author has tried (Preface, p. vii.) "to reproduce some of his ideas in her own words"; to give a picture of the man and his philosophy with perfect candour, without suppressing "those parts of his teaching which he deemed essential, but in which he had never carried her entirely with him, and from which the common opinion would dissent most strongly" (p. xiii.). Nevertheless we are distinctly warned, that "it is only a small corner of this thinker's mind that she has attempted in these pages to reveal, and that in selecting the portions of his work to expound she has purposely left untouched those which presented most that was difficult and repellent. Her aim has been to help the student to grasp the general principles on which the master is to be interpreted, and not to justify every detail of their application" (p. xiii.). Just before, when speaking of Hinton's character as a revolter against conventions, the author had said: "Fifty years hence Hinton will probably be recognised as a more 'dangerous' man than he is now; just as Kant, according to Heine's saying, held the whole French Revolution in his theories, to be evolved by inevitable deductions" (p. xii.). If this and this only is the kind and measure of the danger which lurks in Hinton, we need not indulge in any very alarming degree of disquietude.

We may gather from the above that, if it is but "a small corner" of Hinton's mind that is here presented, still it is that corner which contains the philosophical and fundamental principles of the whole. The matters kept back, in which the danger-

ousness, if any, would consist, are apparently matters rather of application in detail than of theoretical principle. Taking, then, the philosophy as so presented, we shall find it fall naturally, as every philosophy should, into the two main branches of speculative and practical. Hinton avoids the error, too prevalent with Englishmen, of seeking to *rush* the questions of Ethic, without previously settling their foundations in the general analysis of experiential knowledge. Nothing can appear more futile to an unprejudiced observer than to treat either Ethic, Logic, or Psychology, or attempt an independent theory of any of them, without previous settlement of the basis they are to stand on in general subjective analysis. It is like beginning to build a house with one of the top storeys, leaving the foundations and the ground floor to be inserted afterwards. The house would be all in the air, and so is the theory.

All true philosophy must take the opposite course, a course well described in a saying about Plato, quoted by Coleridge in *The Friend* (vol. iii., p. 126, ed. 1837) : "Plato's philosophising, if any man's, was genuine and thorough; and his principle was, that it was impossible for us to see the truth in matters of ordinary experience (*τὰ ἀνθρώπινα*), without first obtaining an insight into their metaphysical basis (*τὰ θεῖα*)". (Coleridge is not responsible for the translation.) Yet the press may be almost said to teem with works on Ethic, Logic, and Psychology, which show little or no perception that a basis in the general analysis of conscious experience is necessary to their stability, necessary to the ascertainment of the place they hold in the total fabric of human knowledge and conduct.

Hinton's Ethics come first for treatment in the present volume, in the two papers entitled "Philosophy and Ethics," and "Utilitarianism and Altruism". The last paper, "A few Notes on Hinton's Theology," contains his speculative basis. Between these come the two papers of Hinton's already mentioned, and two papers by the author, "The Lawbreaker," and "A Law of Development," the latter being the longest in the book, which exhibit the connexion and analogy between the practical and the speculative, and a theory of the general mode in which errors both practical and speculative, both of conduct and of knowledge, are corrected as man's history advances. The chief point about the law of development is its containing what in Hegelese might be called *Aufgehobensein;* the new truth, or the new custom, at once destroys *and* fulfils what it destroys; a point the earliest expression of which is met with, at least so far as I am aware, in the Gospels. This is very well put by the author, and this paper, as well as "The Lawbreaker," will well reward perusal.

These two papers are followed by a sketch of a more personal character, "Hinton the Seer". He is here contrasted as Seer, that is as representing the function of *seeing* as opposed to *saying*,

with Carlyle as Prophet, who excelled in the power of uttering what he saw:—

"It was in the ever-present and overpowering consciousness of the spiritual reality underlying all material phenomena that Carlyle and Hinton resembled each other. . . . Yet even in their insight they were very different; Hinton surpassing Carlyle as much in the depth and clearness of his spiritual vision as he was inferior to him in his individualising faculty; and that firm grasp of men and things which gave Carlyle his power as historian and dramatist. Carlyle did not 'see with the eyes shut' as well as Hinton, but he saw much better than he with them open" (p. 123).

It remains to speak briefly of the two main branches of Hinton's philosophy as they are here presented. The value of this little volume, as the author plainly acknowledges, does not consist in its adding anything to the systematisation or demonstration of Hinton's views. Its value lies in its showing what Hinton's views *were*, as they appeared to a critical disciple, and so helping others to a more complete ascertainment and estimate of them. Criticism of the views themselves, of Hinton's philosophy as such, would here be entirely out of place. Suffice it to say, on this point, that a certain want of systematisation, a certain lack of coherence, which is observable in Hinton's philosophy as presented by himself, in his various writings, remains equally observable in the book before us, and to that extent suggests the anticipation that the philosophy may prove ultimately incapable of being thrown into a systematic shape.

Two things seem evident about it. First, its Ethic belongs to the Christian line of thought, as opposed to the Eudæmonistic,—the line which makes the good and the right consist in the temper and frame of mind of the agent while acting, as opposed to that which makes them consist in results of any kind, near or remote, aimed at or intended by the agent, even including the case where the agent's own moral perfection is the final end. Utilitarianism and Hedonism, both egoistic and altruistic, are special modes of the latter line of thought. Thus we find in the dialogue on Utilitarianism and Altruism the following statement:—

"The useful thing is what ought to be done no doubt, but not because it has a value in itself, but because of the moral qualities evolved in doing it. I ought to care that my neighbour is fed and clothed, but it is my moral condition, not his material comfort, that is of real importance. The 'uses' must be made the means not the end." (P. 24, and see also pp. 30 and 206.)

It is however left in great doubt how this great principle is to be carried out, and in what the criterion of right action is to be placed. How the "law of service," of acting for "others' needs," is either to be applied as a guide to conduct, or to be harmonised with the fundamental principle of acting from a feeling of duty and not for "results," are points which remain wrapped in pro-

found obscurity. See the two interesting Letters, xii., xiii., containing questions by C. H., and the reply by J. H.

The second point is, that, in its speculative branch, the philosophy is of the Transcendental and Idealistic type, but its Idealism is peculiar. The material world appears to us as material or physical, because we, who are essentially spiritual beings, are to some extent *dead*. Otherwise, *it* also would seem to us living, spiritual, immaterial, or at least not consisting of *inert* matter; "the inertia he [man] is forced to think of as outside is really within" (p. 134). What Hinton means by *inertia* is not very clear. Newton indeed spoke of matter having a *Vis inertiæ*, equivalent in meaning to *Vis insita*, but this is the very opposite of its being *inert*. It seems as if the conception of matter which Hinton here combats was a popular conception merely, and not a scientific one.

It is at p. 133, in "A few Notes, &c.," that we first find a statement of "the fundamental philosophical doctrine which underlay all his theology":—

"Now this fundamental doctrine is, that there is a defect, a negation in man, whereby the active spiritual existence becomes to him passive and material; and that this condition is what the Bible calls his 'death'."

But is this what the Bible calls his death? That is one question. Is it true that, in the Bible, the "physical" "is but the way in which the non-perception of the spiritual is expressed"? And again, is the perception of the Self identical with the perception of the physical? (p. 135). There seems to be a confusion of thought here, which requires working out and reducing to harmony. It requires to be shown that the perception of a physical world is identical with the perception of self; that both are identical with a spiritual death; and that this is the meaning of *death* in the Bible.

That Hinton's philosophy is really based on this triple identification is clear from passages in a remarkable letter from him, dated May, 1868, Letter ii. in the present volume.

"But some time ago I saw—alike in history and in *necessity*—that this is the course through which thought goes—must go, starting with the feeling of [the] phenomenal as existing, and yet being, as it must be, really related to and springing from the actual.

"The first thought ascribes to the phenomenal (*imperfectly*) actual qualities.

"The next, based on examination of the phenomenal, and on the more or less complete discovery of its qualities, assigns to existence phenomenal qualities. These two stages must precede the discovery of the nature of our own experience as feeling the existence of phenomena.

"So there is the fetish world—living, active, but utterly mistaken as applied to the physical. Then inert matter and force—taken as the *existence* of the world, &c." (p. 150).

This passage clearly identifies the perception of "inert matter and force" with a deadness or want of insight in us. The follow-

ing passage, from the same letter, identifies that defect, and that perception, in us, with the perception of self:—

"This experience of ours is *God becoming conscious of Self* (not *himself*, just that little difference is all that is wanted). The becoming conscious of self and death are one. And so we see, since the creature's existence is the Creator's in him, this death of man is God becoming conscious of self:—just as Christ gave up His life in becoming physical. And the thought has an universal application. It is the same as the old thought, at least old to me, that creation is by a minus, and must be, to our thought, God *limiting Himself*; and each act of creation—*i.e.*, each creature—surely is rightly to be thought of as some particular form of *limitation* accepted by the Creator. In man He accepts this form of limitation—of becoming conscious of self, that is, of giving up *life*" (p. 154).

The remarkable theory sketched in these words bears in one point, the identification of God's consciousness with man's, a striking likeness to that which is elaborated by T. H. Green in his *Prolegomena to Ethics*, and there also serves, like Hinton's, as the basis of an ethical system. I allude more particularly to sec. 67 in book i., chap. 2 of that work, and am not suggesting anything as to the likeness or unlikeness of the two systems in other respects than this, which is probably due directly to their common Transcendentalism, if so it is to be named. For instance, the great importance attached to the ideal of mutual service is common to both; but, on the other hand, the note of mysticism which is apparently struck in the passage last quoted from Hinton, in which God apart from his creation is represented as self-less, that is, impersonal, would find, I think, no echo in Green, who lays great stress on the identification of spirit with personality, defining both alike by the essential characteristic of distinct consciousness of Self.

But the mysticism is apparent only, and vanishes when we consider that Hinton drew a strongly marked line between our apprehension of the "actual," the spiritual, the divine, by the intellect alone, and our apprehension of it by the moral faculties, which in his view as far transcend the mere intellect as this transcends the mere senses (pp. 56-7, compared with p. 135). In other words, the moral faculties with Hinton have a similar place and function to those of the "practical reason" with Kant. When Hinton speaks of God apart from his creation as self-less, he means that the mere intellect can conceive him only as a Self, and that his Being transcends that conception.

Still it must be remembered, that these views remain with Hinton in the shape, or at the stage, of assertion of an insight, and are not supported, as in the case of Kant and of Green, upon any independent inquiry either into the ultimate analysis of consciousness, or into the ultimate constitution of the mental faculties. Kant's *Critick of Practical Reason* is based upon his great previous work, the *Critick of Pure Reason;* but there is no corresponding substructure to Hinton's theology or ethic. Even the necessity

for regarding Nature as the phenomenon of a noumenon, or in Hinton's phrase an "actual," is left undemonstrated; and yet some proof of this is requisite before that "actual" can be identified with God. However closely we might be in accord with Hinton's insights, still it would be necessary to have his analytical or constructive grounds for them alleged, before we could admit their right to criticism as a philosophy. But, as matters now stand, in order to criticise Hinton's philosophy, it would be necessary first to construct it. Since this is plainly impossible for a critic, Hinton occupies a position of considerable security. It is also one of considerable dignity. It is one which he shares with Coleridge.

SHADWORTH H. HODGSON.

On the Ethics of Naturalism. ("Shaw Fellowship Lectures, 1884.") By W. R. SORLEY, M.A., Fellow of Trinity College, Cambridge; and Examiner in Philosophy in the University of Edinburgh. Edinburgh and London: W. Blackwood & Sons, 1885. Pp. 292.

In the present state of ethical speculation this book—which gives, in revised and enlarged form, the lectures delivered by Mr. Sorley, as Shaw Fellow, in the University of Edinburgh—is of peculiar importance. Even if it is from the "naturalistic ethics" which the author finds inadequate that we expect the best definitive results, yet criticism may be admitted to be more valuable just now than new developments. For the ethical theories founded on the doctrine of evolution are in part inconsistent with one another; and, as Mr. Sorley makes prominent, some of them are claiming to supersede rather than to continue the hedonistic ethics of the earlier stages of "naturalism" or experientialism. Those experientialists, therefore, who are desirous of finding in what direction their general doctrine of morality ought to be developed cannot do better than study such a thorough and careful criticism of that doctrine as is offered in Mr. Sorley's book.

The essence of a great part of Mr. Sorley's criticism is contained in the following passage :—

"The ethical writings of the evolutionists often confuse the problems of history and theory in a way which presents the same difficulty to the critic as the works of the corresponding school in jurisprudence. . . . Everyone is now familiar with the evils of hypothetical history, and with the iniquity of the proverbial philosophic offence of constructing facts out of one's inner consciousness. The historical jurists deserve no little credit for the thoroughness with which this has been enforced by them; perhaps too the same lesson may be learned from the facts of the development of morality. But it may be questioned whether we are not at the present time more apt to confuse fact and theory in the opposite way: whether the science of law is not sometimes lost sight of in the history of legal institutions, and ethics in danger of being identified with the development of moral sentiments and customs." (Pp. 114-5.)

The same criticism in other forms is brought against the utilitarian doctrine and against "egoistic hedonism". All naturalistic theories alike confound investigations of what is or has been with the determination of what ought to be. A separate chapter (Pt. i., c. 4) is devoted to the "ethics of moral sentiment" of Shaftesbury and Hutcheson, which is found to occupy an insecure position between the empiricism or naturalism that "denies to reason any spontaneous or creative function" and the opposing theory of rationalism. By no naturalistic or semi-naturalistic theory, the argument runs, are we enabled to pass from the point of view of science to the point of view of morality. Only the doctrine that ascribes spontaneity to Reason, that sees the reality of things as a system of relations in a universal self-consciousness, and that introduces the notion of end or purpose into its view of the world as a whole, can furnish a valid philosophy of ethics.

In the part of his book that deals specially with the hedonistic theories (Pt. i., cc. 2, 3), Mr. Sorley puts very well most of the arguments that have been urged against utilitarianism as an ethical doctrine and against its psychological basis. It will be best, however, to pass rapidly over this portion of the work. Hardly any one who accepts the theory of evolution can hold that this theory makes no difference to the position of utilitarian ethics; and Mr. Sorley himself believes that evolution has come not to fulfil hedonism but to destroy it. His chapters on the theory of evolution, therefore (Pt. ii., cc. 5-8), are those that it is desirable more particularly to examine.

Perhaps Mr. Sorley attaches too much importance to the rejection of hedonism by some evolutionists. Especially in modern times the ascetic bias is a constant cause tending to prevent moralists from being avowedly hedonistic; and the appearance of a new scientific theory, with important ethical bearings, naturally had for one of its earliest consequences stimulation of the research for a non-hedonistic basis of morals. Hence we need not regard this opposition of evolution to hedonism as inherent in the theory itself. Doctrines such as those which make "work" or "efficiency" or "complexity" ends in themselves are partly expressions of the ascetic bias, partly, we may suppose, voluntary illusions intended by their authors as prophylactics against pessimism.

But Mr. Sorley, of course, does not confine himself to the argument from the actual developments of evolutionist doctrines in ethics. Standing over against the non-hedonistic theories, there are the more important systems of Mr. Spencer and Mr. Leslie Stephen. Much criticism is devoted to showing the inadequacy of these attempts to combine hedonism with evolution. Mr. Sorley candidly admits that he is not convinced by the pessimistic arguments; but he contends that, since an exact pro-

portion between progress and pleasure has not been shown, "we must make our choice between evolutionism and hedonism".

If we decide for "evolutionism" three interpretations of it are possible. The end may be stated as "increase of adaptation" or as "increase of complexity" or as "increase of life". But none of these formulæ can give us any independent ethical ideal. Notwithstanding the attempts of evolutionists to explain the notion of "higher," which, both as applied to conduct and to pleasure, has been taken by the hedonistic schools from current moral opinion, they have not succeeded in getting at any fixed point of view of their own for judging rationally what kinds of conduct are really higher in the scale of development. We must therefore quit the ground of "empirical evolution" as incompetent to determine practical ends, and pass to the view of evolution as the expression of an internal teleology.

Mr. Sorley's conclusion as to the relations of pleasure and progress does not seem quite sufficient to prove the incompatibility of hedonism and "evolutionism". Such an "exact proportion" as he requires is unnecessary. The theories of Mr. Spencer and Mr. Stephen ought really to be regarded as "hedonism with evolution," not as an "alliance" of two independent doctrines called "evolutionism" and "hedonism". Considered simply as rational doctrines of the end of conduct, they are hedonistic; the theory of biological and social evolution is to them only an aid for determining the *axiomata media* of ethics. The questions to which, in order to maintain themselves, they need an affirmative answer are, according to Mr. Sorley, these: "Is hedonism, as Mr. Spencer affirms, a form of thought in ethics?" and "Can the theory of evolution give us any aid in determining what kinds of conduct contribute to the end as already fixed?" Obviously the second question is subsidiary to the first, not co-ordinate with it. But before considering these points more closely, it will be best to describe Mr. Sorley's positive contribution to ethical theory (Pt. ii., c. 9, "On the Basis of Ethics").

His teleological view of evolution (which is not to be confounded with the old "external" teleology) leads him to affirm as the end of man "self-realisation". The transition from the point of view of science to that of morality, which has been found not to be possible empirically, is possible "transcendentally through self-consciousness," because "in self-consciousness we reach the element of identity between knowledge and action". For "the ultimate self-consciousness," knowledge and action are indistinguishable. The being of things and their teleological determination by the absolute Reason are one and the same. For "the finite self," on the other hand, there is a distinction between knowledge and action, "correct if not pushed to the extent of making an absolute separation between them". In human beings "conscious volition only follows a conceived want, a recognition that the self as imagined—the ideal self—is not

realised in the actual self. The action is towards a fuller working out of the idea of self; and the end may therefore, in all cases of conscious action, be said to be self-realisation." This end "must not be looked upon as a feeling—for, if it is, it can only be interpreted psychologically as pleasure—but as simply conscious self-realisation". It is the idea of a progressive self-realisation that makes the notion of evolution intelligible.

Is there any escape here from Mr. Spencer's proposition quoted above? To decide this, we have only to ask how self-realisation, if it has no subjective accompaniment of feeling which is regarded as preferable to other feelings, can be itself an object of preference. It may be said that this feeling exists indeed, but is not part of the end. On the principles of Mr. Sorley's philosophy, however, this exclusion of feeling from a state of which it is the inseparable accompaniment seems to be an illegitimate "abstraction". Of course there is a meaning in the practical direction to think of self-realisation rather than of the feeling that accompanies it (or is part of it); but, because this is a useful practical direction, it does not follow that a certain type of feeling is not ultimately the test of self-realisation, or even (as some hedonists have held) that this feeling is to be excluded as much as possible from conscious thought.

Mr. Sorley's theory has no more power than the theories of evolutionists to evade the hedonistic test. And by the application of this test to every theory in turn we obtain proof of the necessarily hedonistic character of all determinations of the end of conduct. For the rest, the formula of "self-realisation" may be admitted to be better than most of the alternative formulæ. It is in some respects superior to "altruism"; for, if this points more directly to the social character of the ethical end, "self-realisation" has the merit of insisting more on the worth of the individual life. And, unless the individual life has a worth of its own, service to the community can of course have none. This is sometimes forgotten in modern exhortations to altruism. Perhaps, however, justice is not quite done to the evolutionist formulæ, such as "adaptation". Rolph, for example, whose work on ethics was reviewed in MIND, Vol. x., 281, and who is referred to more than once by Mr. Sorley, makes it clear that ethical adaptation for man must consist in adaptation to the social and not merely to the inorganic environment. The formula of "increase of life," which Mr. Sorley finds less inadequate than "adaptation" and "complexity," is certainly rather general, and even vague, till it is interpreted; but then so also is the Hegelian formula.

How are we to decide, for example, whether self-realisation shall be in the practical or the æsthetic or the theoretical life? The formula can obviously be applied with equal validity to all three. Is it then rightly described as an ethical formula? Or is it not rather a formula of "the art of life" in general, which in-

cludes both ethical and other ends? And in applying it to practical life, how are we to determine what is man's true mode of practical realisation of the self?

The answer given by Mr. Sorley is, of course, that since the individual man is an organic part of society his true self-realisation in conduct must be social. Now it is exactly here that the theory of evolution becomes applicable to ethics. The social application of the Hegelian formula is really determined, not by a dialectical process, but by a more or less complete doctrine of historical evolution. Similarly the hedonism of the utilitarian school was conditioned by a social doctrine, according to which man, if, as critics point out, he is still regarded as an "isolated individual," is at the same time brought into relation with others by sympathy. What the disciples of Mr. Spencer are entitled to claim is that the theory of evolution in its full sense, as he has comprehended it, is capable of giving still more definite guidance to the formulæ, by themselves too vague, of "greatest happiness" or "self-realisation".

"Self-realisation" has, no doubt, one advantage over "happiness" as a statement of the nature of the highest good. It excludes from the sphere of ethics those incidental pleasures that have nothing to do with the attainment of ideal ends. These pleasures, which are the true object of the "hedonical calculus," really belong to an outlying portion of "the art of life". This is what Clifford seems to have in view in the passages referred to by Mr. Sorley in a note on p. 6. Clifford argues that "happiness" (regarded as a sum of pleasures) does not concern ethics except in so far as it makes men better citizens. But, if happiness of the kind referred to has no strictly ethical value, it does not follow that it has none at all. For the rest, Clifford's position is not really inconsistent with the view that happiness of a certain kind is part of the ideal end. This happiness may perhaps be distinguished from isolated pleasures as being the accompaniment of an activity of the whole personality, and not merely of some partial stimulation. There is a distinction of this kind in Spinoza.

The evolution-theory of ethics, Mr. Sorley remarks in one place, oscillates "from the theory which looks upon the *summum bonum* as pleasure to that which finds it in activity" (pp. 199-200). This last view is especially that of Clifford, as developed, for example, in his article on "Cosmic Emotion" (*Lectures and Essays*). But, as has been seen, Clifford's ethical doctrine is not in itself anti-hedonistic, any more than the theory that makes self-realisation the end. With the doctrine of self-realisation it has much in common. The idea of a social and individual activity of man put forth in opposition to the forces that tend to make him mechanically adapted to his environment—an activity from within by which he becomes "more organic"—may indeed be claimed as a justification, on the ground of "empirical evolution," of the really distinctive idea of the "rationalistic" school. And

"self-realisation" of man as a social being would be a good expression of Clifford's ethical doctrine so far as it is founded on the idea of activity.

There is finally, however, an important metaphysical difference between the inclusion of activity or spontaneity among the elements of experience and the rationalistic doctrine held by Mr. Sorley, which introduces the notion of end or purpose into its view of the world as a whole. But does this difference affect the theory in its bearing on ethics? While agreeing with Mr. Sorley as to the close connexion of ethics and metaphysics, we may still find it hard to understand how it can make any difference with respect to the end or highest good of man whether man's end is also the end of the whole movement of things.

The teleology which Mr. Sorley's school regards as the supreme category under which things can be thought, may present itself to another school as a kind of imaginative anticipation of a theory of universal evolution, rather than as the final outcome of a scientific law imperfectly conceived by its discoverers. Even the "external" teleological theories had the merit of pointing out biological facts that needed scientific explanation, and at length found it. Similarly, we may hold, the idea of a universal Reason determining the movements of history was not a mere metaphor, but pointed to an evolutionary law of the phases of human society considered as an organism. In ethics, of course, "teleology" (in one sense) is supreme. An ethical system must bring all knowledge under "the category of teleology" with a view to determining its bearing on the end of man. But when we consider things theoretically, then it is the conception of law that is supreme. We are no longer at the ethical point of view: and to the impartial outlook of the theoretical reason the good of man is no longer anything but a term of a single series among innumerable other series of events in a process of universal change.

T. WHITTAKER.

Scottish Philosophy: A Comparison of the Scottish and German Answers to Hume. By ANDREW SETH, M.A., Professor of Logic in the University College of South Wales and Monmouthshire. ("Balfour Philosophical Lectures," University of Edinburgh.) Edinburgh and London: W. Blackwood & Sons, 1885. Pp. xii., 218.

Mr. A. J. Balfour's public-spirited act in endowing (for three years) a philosophical lectureship in the University of Edinburgh has here borne excellent first-fruits. In the university of Stewart and Hamilton, no subject could have been better chosen for the initial course of lectures than a comparison of the Scottish, and more especially of their master Reid's, answer to Hume with that German one which in later days has forced the other almost out

of hearing. Prof. Seth has done a good work in bringing fairly into view, without exaggerating, Reid's merits, and he has also been able, within his limits, to give marked effect to the founder's desire that "the lectures should be a contribution to philosophy and not merely to the history of systems". As an express effort to bring directly face to face the opposed philosophical schools of the present day, the lectures are specially welcome. They are, as usual with the author, very well written, and show him not less anxious than ever to understand and allow for the point of view of those from whom he differs.

As Reid set out—even more expressly than Kant—to answer Hume, and saw in Hume the natural term of that movement of modern philosophy which had been started by Descartes and had received a new direction from Locke, the first third of the course of six lectures is occupied with a review of the "Philosophical Presuppositions" which Hume took from his predecessors and of the "Philosophical Scepticism" into which—not partially, like Berkeley before him, but completely—he ran them out. In the next two lectures, Reid's own doctrine—especially of Sensation and Perception, upon which he spent his strength—is considered, and his deficiency of philosophical system gives the occasion of passage to the Kantian "Answer" which at least was free from shortcoming in that respect. Shortcomings enough appear, however, arising from Kant's readiness to make admissions to Hume which the wiser Reid had withheld; and the last third of the course is occupied first with an exposure of the particular superstition of "Relativity of Knowledge" which Kant imposed upon his adherents, including Hamilton within the Scottish school itself, and then with a consideration of the help towards philosophical system that may be had by the truer heirs of Reid's saving common sense from Kant's profounder successor, Hegel, whose "analysis of the conceptions of reason as reason" is pronounced "an indefinite advance on anything that had gone before it in modern philosophy".

The account of Descartes and Locke, in the first lecture, is remarkably good. It would be impossible to bring out more clearly and succinctly the inability of the "two-substance" doctrine of the world to afford any explanation of perception or knowledge. This doctrine, with its mediating factor of "ideas," Locke took in all essentials from Descartes; and, if he had not done service otherwise to the philosophical theory of knowledge by giving the chief impulse to scientific psychological inquiry in modern times, his halting and wavering application of it must have kept him from ever winning any place of importance in the history of philosophical thought. Berkeley is lightly passed over in the transition (made in the second lecture) to Hume,—on the just ground that Hume, while drawing directly from Locke the principles that he carried out to the fateful results, received at most from the younger thinker mere aid and suggestion;

but something might have been said of the positive advance upon Locke that Berkeley did not fail to make in point of psychological theory, recognised as this was not more by Hume than by Reid himself. And, apart from any concern of Reid, the like omission is to be observed in the handling of Hume. While Prof. Seth brings out in a most effective way the negative, or at least purely sceptical, character of Hume's ultimate results, and argues with reason against a late attempt to represent him simply as a constructive philosopher, acknowledgment might still have been made of the serious purpose with which, as the Introduction to the *Treatise of Human Nature* shows, he set himself to the task of bringing the "science of man," after Locke, into some kind of line with the physical science of Newton and others. Nor even as a general philosopher, in respect of that part of the philosophic function which his champion Prof. Huxley had not least in view, *viz.*, the providing of a theory or explanation of the special sciences, can it be said that Hume is devoid of all constructive aim. Opinions may differ as to the sufficiency of his theory of physical, still more of mathematical, science; but if we are to take him, as Prof. Seth desires (p. 70), "at his own valuation,"—not only again in the Introduction but throughout many chapters in the body of the *Treatise*,—we may hardly deny that, in the uncertain mixture of his intellectual temperament, there was after all a considerable dash of the genuine positive spirit.

Reid's great merit, on the question of perception, is declared to be his clear insight (in general) into the impossibility of giving any explanation of that function from an assumption of unrelated sensations, to be afterwards brought, by one means or another, into relation. Prof. Seth thinks that the most advanced psychologists of the present day have been driven, practically, to the same position, which he would himself express in the form that, though indeed "sensation is the condition of perception," "sensation as sensation does not enter into perception at all" (p. 93). Here we need not follow him into what he finds well—or again not quite well—said by Reid, but may remark that, in seeking to apply the modern psychological doctrine of "local signs" against a vain distinction made by Reid between the cases of visible and tangible extension, he gives it first, on pp. 90-1, some rather questionable expression, and then is led on to use language about both visual and tactile sensations—that they "must contain some specific indication or hints as to the whereabouts of the object if our location of the latter is not to be purely arbitrary"—which does not seem to consist very well with the denial (just quoted from next page) to "sensation as sensation" of any import for perception. That denial is, surely, much too absolutely made. It is plain that in the philosophical analysis of objective perception (or percepts) any elements of sensation that are disclosed must appear as ordered or related in manifold fashion, as also that, even

for the individual, any the simplest actual sensation must already figure as part of a general system of experience; but it seems not less plain that from another point of view—which is the properly psychological one—sensations may and (for purposes of science) must be regarded as unrelated. The organs of the different senses, though all physically connected through the one nervous system, have a relative independence, and may in different degrees be called separately, or when not separately then at least distinguishably, into play. While passive sensations like light and sound can be had to all intents and purposes wholly apart, it is possible also to get at the elements of what appears, at first, as a unitary sense-experience of the active sort (touch, vision, &c.)—because the co-efficients (of passive sensation and so-called muscular sense) may be made to vary relatively to one another. Now, unless it be maintained consistently that the psychological investigation of the various kinds of sense-experience has no bearing at all upon a theory of objective perception, there can be no ground for complaint that they are viewed, in the first instance, as far as possible, in isolation. From this ground, we have seen, even Prof. Seth cuts himself off; still more Reid, who never desired to make any distinction between philosophy and psychology (such as is now from any point of view seen to be necessary), while he was most earnest in his wish to proceed upon a psychological basis. Reid might therefore very well have gone much further than he did in the way of such (psychological) assertion as Prof. Seth shakes his head over at p. 88. He was safe enough against thinking (with Hume) that any manipulation of psychological factors, as such, could of itself, straightway, account for a knowledge of object.

The want of system in Reid's statement and description of the principles of knowledge is brought clearly into view; at the same time, nothing is passed over that may help to recover for him the philosophic character which it has been the fashion to deny him since the time of Kant or since Kant's depreciatory opinion of him became known. Specially interesting, in this connexion, is the reference to the various passages in the *Intellectual Powers*, where Reid seeks in the forms of language a clue—or more than such a mere "clue" as Kant, in corresponding case, sought from the school-logic—to the principles, as he called them, of "common sense". When the function of language in producing and maintaining community of knowledge among men is once considered, its philosophical import is seen to be of the most profound and far-reaching character; and Reid, with his "common sense," is to be blamed only for allowing the more important use of the word "common" to be overshadowed by its other implication of 'ordinary' (as having relation to everyday experience and practice). In making what reference he did to language, he shadowed forth a surer method of philosophical analysis than Kant, with all *his* more laboured art, was able to devise.

Kant—not for the first time—gets somewhat hard measure from Prof. Seth. However ready to acknowledge his large manner in comparison with Reid's, the lecturer is no sooner embarked upon an examination of the Critical Philosophy than he finds (like Dr. Hutchison Stirling) so much to except to in its fundamental positions as to side rather, in the end, by preference with the modest Philosophy of Common Sense. Though refusing to accept the home-grown product under its name of Natural Dualism, (which, of course, brings back the "two-substance theory" in an aggravated form), he has, apparently, little or no objection to it under its other guise of Natural Realism. On the other hand, Kant's categories are, after some consideration, pronounced "useless because they simply do over again what is already sufficiently done in the objects themselves" (p. 140); as, again, it is claimed for Experience that, so far from being identifiable with mere sensation or contingency, it "yields to the knower objects and relations of objects which are, to begin with, just what the categories are supposed afterwards to make them" (p. 142). Later on, in the fifth lecture, the Scottish philosophy is expressly congratulated upon its escape from the dangers of Kant's subjectivism "by taking up the broad position that while the principles in question [pure percepts of space and time and categories] are referable to the constitution of our nature, our nature is, in respect of them, in complete harmony with the nature of things" (p. 157). And even in comparison with the method and achievement of Hegel, it is suggested, in the last lecture of all, that the Scottish procedure may yet lead to a more satisfactory determination of the ultimate questions of human concern. This suggestion is to receive further development in the coming second course of lectures, which may also give the best occasion for considering what is here said on the help to be meanwhile sought from Hegel towards that end; but as between Kant, on the one hand, and Reid, with the truer upholders (than Hamilton) of the Scottish tradition—"writers like Prof. Calderwood, Prof. Flint and Dr. M'Cosh of Princeton" (p. 183)—on the other, it may be asked whether the making of such round assertions about reality, object and the like, as data of direct experience, does not come perilously near to abandoning the philosophic task altogether. Prof. Seth, like Reid before him, makes no difficulty about surrendering the secondary qualities of matter to the relativist, let straightforward experience say of them what it likes, but would draw the line, for perception, at Aristotle's 'common sensibles,' and speaks of these as an absolute directly apprehensible by "reason in sense" (p. 154). Why, though 'common,' should they have an absolute objective character ascribed to them as against Kant's subjectivist interpretation, which at least explains how they can be—as they have to be—combined in perception with the 'special sensibles,' allowed to be subjective? Or—giving the question an expressly, instead of (with Kant) an implicitly, psychological form—why

should they not be referred to an origin which, while distinctly marking them off from the varying 'special sensibles' with which they are interfused, explains what variability there yet is to be found in our apprehension of themselves? The psychologists and Kant, from their different positions, have then, indeed, a serious enough task before them to explain what we all mean by object; but the work of philosophy is serious—more serious than Reid, at least, ever quite imagined, once he was frightened back by Hume from that 'doctrine of Ideas' which (he tells us himself) he once believed so firmly as to embrace the whole of Berkeley's system along with it.

Apart from some questionable arguing upon the line here suggested, there is a great deal of sound and seasonable doctrine in the lecture on "The Relativity of Knowledge". It bears with telling effect against the relativism of Kant and Hamilton, and only does not seem to touch the Phenomenalists proper who are here too indiscriminately ranged with the Relativists over against the more "fortunate" Natural Realists of unadulterated Scottish breed. Indeed, Prof. Seth himself may be thought to reason with no small force in support of a pure phenomenalism from p. 167 onwards.[1] However that be, enough should have been said to draw attention to these Balfour Lectures. The second series will be neglected by no reader of the first.

EDITOR.

Les Principes de la Morale. Par ÉMILE BEAUSSIRE, Membre de l'Institut. Paris: F. Alcan, 1885. Pp. 307.

It is pleasant to find German ideas combined with French lucidity of exposition and grace of style. Such a combination forms the most conspicuous charm of the interesting treatise which M. Beaussire has here given us.

The book begins with a chapter on "La Crise actuelle de la Morale" which reminds us that in France the contact of moral philosophy with life is closer than it is in England. The divorce between the teaching of the pulpit and the ideas of thinking men is more pronounced: on the other hand scepticism is more destructive: and the "spiritualistic" moral philosopher writes, like the Stoic of ancient Rome, with more consciousness of a practical aim than in England or in Germany. It is noticeable that M. Beaussire complains that the actual moral tone of lay society in clericalist circles, as exhibited for instance in the tone of their newspapers, is no higher than that of their anti-clerical opponents.

The most weighty portion of the work follows—the book on

[1] Is Prof. Seth quite just to Locke at p. 169, when, after quoting a sentence from the *Essay*, he in the next sentence changes Locke's "*ideas* of particular things" into "proper names"?

"Morale Formelle," which contains an admirably clear exposition of the central ideas of Kant, separated with great care and judgment from the confusing mass of arbitrary technicality and extravagant paradox in which they are held in solution in the philosopher's own writings. The most obvious difficulties which embarrass the student of Kant who tries to "bring down philosophy from heaven to earth" and apply Kantian principles to the conditions of everyday life are—(1) the austerity with which the principle of the "autonomy of the will" is carried out, so that an action done from love of one's father is pronounced as completely non-moral as an act motived by avarice or appetite; (2) the utter failure of Kant to provide a workable criterion of morality without having recourse to the forbidden principle of utility. M. Beaussire's mode of dealing with the first of these difficulties is striking and valuable as far as it goes, if it is not completely satisfactory. He treats Kant's principle of duty for duty's sake as an ideal—as the formal ideal of a perfectly moral act. In actual life there may be acts which are at every degree of nearness to or remoteness from this ideal, but the moral element in the act is, in all cases, the love of right which it exhibits. We should necessarily have this "formal idea" of a perfectly right action even though no action fully satisfying its conditions had actually been performed. This is what seems to be implied in such passages as the following:—

"Le premier principe de la morale ne peut être un idéal de perfection, mais un idéal formel, un idéal nu pour ainsi dire, dont la conception et la réalisation soient indépendantes de toutes les conditions si complexes et si variables auxquelles est soumise la nature humaine dans l'ensemble de ses éléments et dans le cours de son évolution à travers les differentes phases de la vie individuelle et de la vie de l'espèce. La volonté autonome offre seul ce caractère. Dégagée, par sa définition même, de toute considération extérieure, elle ne demande, pour être conçue, qu'un effort d'abstraction et, avant même de se produire en une idée nette et distincte, elle se réalise sous une forme plus ou moins pure dans tout acte de vertu" (p. 100).

The second difficulty, the inability of the principle of "autonomy," when taken by itself, to furnish any content for the moral law, is fully admitted (p. 173). The clear distinction drawn between "formal" or "subjective" and "objective" good, is one of the great merits of the book. An action is not in the full sense moral, we are told, unless it is both subjectively and objectively good (p. 172). But neither concept can be deduced or extracted out of the other. The objective good which every subjectively good action must aim at realising *includes* the formal good, *i.e.*, the subjective rightness of other wills as well as of the agent's: but it is impossible to get out of a purely formal conception of good into a concrete good such as is capable of forming a τέλος of action without introducing the notion of happiness. "L'idée de l'utile est la seule qui puisse donner à la morale un objet précis sans l'emprunter à la morale elle-même. Tout ce qui est utile n'est

pas morale, mais tout ce qui est moral est utile" (p. 192). In other words, the happiness by conducivity to which the morality of actions is to be estimated is one which includes goodness. "Il ne faut jamais oublier que le plaisir n'est un bien que dans la liaison avec d'autres biens" (p. 225). I must, however, confess to some disappointment at the way in which the principles laid down on pp. 192-3 are worked out in detail. The logical connexion between the author's view of the nature of moral obligation and his view of the moral criterion is not brought out with quite the clearness and cogency which one would have liked to see. The author more and more towards the end of the book seems to lose the moral philosopher in the moralist. Not that he degenerates into mere platitude: many excellent and thoughtful contributions are made to a "théorie des devoirs"; but the practical sagacity, judgment and moderation of the author's eclecticism are sometimes more conspicuous than the strength of the logical bond which connects together its component elements. After his strong statement of the necessity of a consequential criterion, it is unsatisfactory to be thrown back upon that vaguest of all evasions of the ethical problem—"a harmonious development of all the faculties":—

"Or, pour la nature humaine, l'intérêt bien entendu tel que nous l'avons défini, se résume dans le développement harmonieux de toutes les facultés" (p. 282).

It is true that in the next sentence we have a clever exposition of the author's view of the τέλος or sovereign good:—

"Il comprend donc le bonheur comme la vertu; mais il ne comprend le bonheur que dans son accord, dans son harmonie avec la vertu. Là où cet accord n'existe pas, le malheur de l'honnête homme ou le bonheur du coupable est contraire à son véritable intérêt et il appelle, pour rétablir l'équilibre, l'action de la bonne volonté, de la volonté autonome. La 'sanction de la morale' ne contient pas d'autre mystère."

This, with what follows as to the demand of the moral consciousness for an ultimate reconciliation of virtue and happiness, is all that could be wished. But surely this is not all that is meant by a "harmonious development of *all* the faculties"; and yet, if M. Beaussire means more than this, he does not tell us what that meaning is.

But notwithstanding a certain want of mental grip, one could heartily wish that we had in English so good a *résumé* of the general principles of a moral philosophy which is Kantian in its formal basis, consequential though not hedonistic in its view of the ethical criterion. It is to be regretted that M. Beaussire should not have had before him Prof. Sidgwick's *Methods of Ethics*. But to M. Beaussire. Mr. Spencer is to him "the most eminent" of the contemporary representatives of Utilitarianism; and the inconsistency of Mr. Spencer's system with the evolutionary principles on which it is professedly based, is brought out in some very

telling paragraphs of book iii. chap. 2. But he seems to know of no Utilitarianism which, accepting substantially his own rationalistic view of the basis of morality, contends for a purely hedonistic criterion. M. Beaussire's exposition of his own view of the criterion seems to fail a little in definiteness and incisiveness for want of an opponent or rather of an opponent with whom he would have any common principles as a basis for argument. In a second edition, M. Beaussire could not do better than measure swords with Prof. Sidgwick. At present, his book is to be welcomed as a valuable contribution towards that reconciliation between an "Intuitional" view of duty and a Utilitarian view of the moral criterion which Prof. Sidgwick has attempted on other lines. Not unworthy of comparison with the *Methods of Ethics* in literary form, inferior to it in exactness of thought and expression, in argumentative power and unphilosophic thoroughness, M. Beaussire's work is, as I venture to think, far more happy and consistent in its actual solution of the problem.[1]

H. RASHDALL.

Allgemeine Ethik, von Dr. H. STEINTHAL, a. o. Prof. für Allgemeine Sprachwissenschaft, Corresp. Mitglied der Kgl. Ges. d. Wissensch. zu Upsala. Berlin: Georg Reimer, 1885. Pp. xx., 458.

Prof. Steinthal's *General Ethics* is the fulfilment of a hope thrown out at the end of his *Abriss der Sprachwissenschaft*, the well-known work on the Science of Language, of which a notice appeared in MIND 33. There are many signs in Germany of a revived interest in Ethics, due to the prevalence of the strictly mechanical way of thinking, which, while attracting some, seems to impress upon others only more strongly the old distinction of nature and practice. The problem of Ethics, Prof. Steinthal conceives to be "how to preserve the idealism of character, with full recognition of the mechanical world" (p. 18). We need an Ethics which shall be in the mechanical world, but not of it. This need, and the imminence of social changes in the moral conceptions of property and the family, supply an interest to systematic Ethics which they have not had before. The previous lack of interest he attributes to two causes: partly, the strong ethical affinities of the great national literature have dispensed with explicit ethical

[1] The limits of this notice do not permit of criticism on points of detail, on many of which I should disagree with the writer. One of the most conspicuous features of M. Beaussire's system is his very sharp distinction between duties proper and acts which it is good to perform (pp. 71, 169, 182, 192-3, 240-1, 279). He is in fact an ardent believer in "works of supererogation". The basis of the distinction seems to be found simply in the unanalysed affirmation of the ordinary moral consciousness. The question seems to desiderate deeper treatment than is here accorded to it.

systems; partly, the political conditions of Germany have made national unity the primary moral necessity (p. 7). With whatever success Prof. Steinthal has solved the problem he sets himself, his work will be of importance to English readers because it presents a view very unfamiliar in England, that of the school of Herbart. The first half of the book may in fact be regarded as a quite independent elaboration of Herbart's *Allgemeine Praktische Philosophie*, but without the scholasticism which still clings to Herbart in spite of his geniality, owing perhaps to the close compression of his work. Prof. Steinthal's book has the rare merit of a real and striking literary style, and is full of additional interest from its application to pressing practical questions. In speaking of so eminent a writer it would be unbecoming to do more than refer to the kindliness and humanity of feeling, and the force of character and conviction, which give every page he writes the stamp of reality, as the writing of a man who has something to say that is worth saying.

The Introduction gives Prof. Steinthal's view of the nature of Ethics, which he rightly groups along with Æsthetics. Like Æsthetics, it deals not with knowledge but with certain modes of judgment *(Beurtheilung)* expressed in words signifying praise or blame, beauty or ugliness, and embodied in certain feelings which are called Objective or Formal Feelings. The former name distinguishes them from ordinary pathological feelings, which are judgments of self, "the consciousness of heightened or lowered energy of life". These feelings are purely psychological, and admit of no principle: all ethical systems of Hedonism therefore which are based on them are excluded. The objective feelings however are not states of suffering but peculiar activities of feeling which come into existence with the creation of their objects. Their existence is attested by such facts as these: a hexameter is not felt as a series of feet but as a unity, as a single object of feeling; a building again, say a Greek temple, is seen as a whole without distinct knowledge of its parts, and the whole as a unity gives a satisfaction which it would not if its parts were different, just as a triangle affords a feeling of ease which it would not if two of its sides were not continued so as to meet. Just so it is with the ethical feeling of approval: it is a feeling felt at the same time that its object is judged to be good. What then are the objects of these feelings? They are not causal connexions among things such as are the objects of science, but relations of pure form: in the case of art, relations of form of the sensible phenomenon; in the case of moral relations, of will. As such they are most properly called Formal Feelings. Such feelings then are universal: the relations which are their objects are not dependent on the state of the person, nor on mechanical relations of existence of the things in which they are exhibited. The object is an Idea or Picture: in this ideal product lies the meaning of a work of art or of an act of will.

Corresponding to the categories of the understanding there are certain measures of ethical judgment, which are the "forms in which the formal feeling holds its content" (p. 72). These forms are called Ideas, and it is the business of critical Ethics to discover them. They are not conceptions, because they are not contained in actual things but in the formal judgment; nor are they perceptions, because their objects are not real but intelligible; nor lastly are they laws, which, though relations, yet hold their factors apart without submergence into the unity which is the object of formal feeling. A line divided in "medial section" is seen by the observer as three lines, the two parts and the whole line; the artist sees it as the "golden section," a single object created by the relation of its parts. The Moral Ideas then are purely intelligible relations of form, which are the measure or pattern of the Good Will. Prof. Steinthal insists, and justly, that the only Good is the Good *Will*, whose actions are but "the language of will": his insistence upon this point is one of the great merits of his work. But the Idea of the Good is not a psychological form of the will as a mental faculty: it is purely formal, and does not enter as such into the mechanism of the mind, but is a category of judgment. Goodness, therefore, is an intelligible or formal quality of the will, none the less objective because it is good only in relation to the feeling of approbation, for the quality is one with this feeling of judgment.

The First Part is occupied with exhibiting the Ideas which are the elements in the Idea of the Good. They are five in number: (1) the Idea of Moral Personality, (2) of Benevolence, (3) of Union, (4) of Right, (5) of Perfection. This list differs from Herbart's in only one particular: Herbart has no Idea of Union, but he has a fifth Idea, that of Fairness or Equity *(Billigkeit)*, which is absent from Prof. Steinthal's list. The Idea of Moral Personality is the same as Herbart's Inner Freedom. All these Ideas are pure relations either within the will or between different wills. Moral Personality, for instance, is the agreement between the will and the moral insight; not a mere logical relation of subsumption, but of such a kind as that the moral insight shall itself produce the will (p. 99). Thus it is the relation between the will (which is always psychological) and its ideal as given by insight which is moral: morality is a quality of the disposition *(Gesinnung)*: what is moral is character. Benevolence again is a relation between two wills, in which one person adopts the other wholly into his consciousness, a devotion on the one side which needs in the perfect order to be rewarded by gratitude on the other. None of these Ideas must be taken apart from the others: a rascal may be a "perfect" rascal, but the perfection of the Moral Idea is one which is guided by the moral insight of the first Idea: there may be good-will among thieves, but their good-will to one another is ill-will against all the rest of the world. The last and highest of the Ideas is Perfec-

tion, which gives body to the moral personality; but it is not a stagnant state but a progress: perfection consists in becoming perfect. This implies on the side of character Love for the Good, as to be attained in the individual himself and society as a whole. It leads therefore to the conception of an "Intelligible world" above the world of Nature, which is the objective system of which the complete moral personality is the subjective counterpart. This conception the author describes as the keystone of his system, and it plays a very important part in his ethical view of the world.

We may pass over for the present the admirable and suggestive Second Part which treats of the actual institutions in which these Ideas are embodied and of which they are the creators. The question presses for answer, How is this free intelligible world to be reconciled with the nature of the individuals who have to realise it? Freedom is an intelligible Idea, which yet is active amidst the natural life of the psychological man. The answer is given in the Third Part which treats of the psychological mechanism of moral action. It consists in combining a peculiar theory of the will with a distinction drawn already in Part i. between Power *(Macht)* and Force *(Kraft)* (p. 160). The Ideas have Power, but they have not Force; as such they would only be one of the many psychological forces of the mind, but they are purely intelligible. The force of immorality is measured by the strength of bad desires; the power of morality is the degree in which the moral insight prevails, and it is measured therefore by the weakness of opposing desires. Butler is not widely read in Germany, where no one expects to find moral philosophy in a volume of Sermons, but this distinction is of the same nature with the distinction he draws between the *authority* of conscience and the power of the passions, and in point of language less appropriate. The theory of will rests mainly on the principle of the interaction of ideas *(Vorstellungen)*. In the course of a valuable classification of movements, Prof. Steinthal endeavours to show that will, desire and effort are not different from ideas; will and intention signify only that a conscious idea is approved (p. 332). The will is built up from the instructions of the impulses, and in especial from the impulse to imitation, which is explained as due to the innervation of muscles connected with a motion at the sight of that motion in another. But in man reflexes and impulses are lost with the development of consciousness, and every idea becomes accompanied with the consciousness of an end. What is most characteristic of will is deliberateness *(Besonnenheit)* or self-control, and this arises from the inhibition or determination of one idea by another. In this way different groups of ideas excite one another, and one idea within a group excites the rest within the same group. This faculty arises from association, one idea calling another into consciousness; and the excitability of different groups depends upon laws which are set forth on p. 370.

Now the Moral Ideas are not psychological; they do not enter into the chain of cause and effect. Yet they have power *(Macht)*; and because they are presented as ideas *(Vorstellungen)* they also become psychological forces. In this way there grows up a group of ethical ideas *(Vorstellungen)*; and consequently while Freedom still remains an ideal fact, not psychological, it may yet be measured by the degree to which the other groups of ideas are determined by the ethical group. This supremacy of the ethical group it is *duty* to develop, and it is the object of education. Freedom is thus Autonomy, the determination of the will by a self-imposed Law.

In the Fourth Part Prof. Steinthal goes on to complete his ethical theory by a moral *Weltanschauung*. It is for the most part a development of the notion of an objective spirit (which contains the truth of knowledge, the beautiful and the good), but he repudiates the help of the metaphysical conception of an absolute spirit as much as that of religion. There is, he holds, no antagonism between ethics and religion, but moral institutions like marriage stand in their own rights: marriage is a disposition of two persons, religion only stamps their entry into religious society as the state stamps their entry into civil society. The moral spirit it is which gives value to Nature, which in itself is wholly the play of accident without an end of its own. It creates out of Nature a Cosmos, a world of humanity. This intelligible world contains not only the good will but Truth and Beauty as well, which the Good draws up to its own height. For Science and Art alike are the creation of the Reason, but they are still separated from their creator; whereas a man *is* his will, and in virtue of this identity he gives his knowledge the mark of Truth, and that which pleases him the qualification of Beauty. The truth then of Science, Art, and Action, is given in the human spirit, which itself without time or space posits its sensation in definite time and space. This objective spirit is the medium of the individual subjects, in which they communicate as by speech. It is the sum and system of subjective minds, at once their creation and superior to them. So far as I understand Prof. Steinthal, he seems in his distinction of subjective and objective not to mark clearly two different meanings of objective,—(1) that which is outside a subject, for example a word uttered, which Prof. Steinthal does not consider objective (p. 421), and (2) that which is communicable from one mind to another like a language, or a true thought. The latter is, I suppose, the sense he intends. He shows further the historical character of this objective spirit, and how in individual nations it gathers into separate Ideas or ideals, ways of thinking or dispositions of character. It lifts the individual who breathes in it out of a purely natural state into an ideal character *(ideell)*. This spirit exists only in and through the individuals, on whom is therefore imposed the duty of assimilation to the total order.

On this depends the notion of Duty: it is the intelligible character of man to perfect himself into the ideal reality which he acquires as moving freely in this atmosphere (p. 438). From this root spring the particular duties: (1) self-respect with humility, (2) self-maintenance and self-devotion, (3) self-regard and regard for the community. This relation is otherwise expressed as the relation of the *I* and the *We*. The *I* is the individual bearer of the objective spirit represented by *We*. In this sense of the *Ego*, it is the character as expressing the *power* of ethical rules.

Without detailed inquiry, we may raise some questions upon Prof. Steinthal's general theory of morality. The "formal feelings" are a kind of "moral sense" only divested of the adventitious and arbitrary character of the moral sense, and objective, both as constituting their object and as universal. There can be no doubt there is a certain feeling of "satisfaction or dissatisfaction" (p. 48), connected with the unity of a moral act—the feeling of approbation or the reverse: but is this a sufficient account of the nature of moral judgments? In the first place, similar feelings are present in logical judgments, and may be called a formal feeling of truth (cp. Wundt, *Phys. Psych.*, ii. 347). Prof. Steinthal denies this (p. 40). He speaks of such feelings arising at the hearing of an unproved proposition, or of a given proof, but regards them merely as a kind of scientific tact. But, it may be urged, the "logical feeling" also exists as a kind of object-making feeling, a sense of logical propriety which almost impels the mind to take the next step in discovery, and such an intellectual sense is behind most theories of the development of ideas. And again is it not a moral "tact" which is also the guide in ordinary judgments of actions? Prof. Steinthal's view of the relation of moral and logical judgment (*Beurtheilung*) is indeed very difficult to apprehend precisely; for instance, the latter (*i.e.*, the answer to the question, Is a cognition true?) is distinguished from the former or from æsthetic judgment, as being without feeling (p. 39). But in Part iv. correct knowledge is declared to be *true* when it is the product of the moral impulse, and therefore would seem to be connected with a formal feeling (p. 412). Unless we are willing also to regard logical judgment as identical with logical sense, the theory of formal feeling hardly shows us more than that moral relations appear in feeling as a sense of satisfaction.

The greatest difficulty in Prof. Steinthal's theory is in his apparent separation of the moral character of actions, and therefore of the formal feeling, from the "pathological feelings". The moral relations or Ideas thus become formal and abstract: they seem to be something besides the other relations between the elements of action. Now the beauty of a statue cannot be a mere relation of form, but implies a sensuous vehicle of the form, and the beauty is not imposed upon this (as we gather from p. 435), but

grows out of it by organisation of its parts. In the same way moral relations grow out of ordinary feelings by refinement of them. The feelings or impulses or volitions become limited and modified so as, in their connexion, to constitute the human end. And the truth contained in the notion of "formal feelings" seems to me to be this, that in each new trial as to what the end is, or where perfection lies, the test is a feeling that the act really does further development, a feeling therefore of satisfaction. The moral relations are not over and above the actual relations of will, but give value to them because contained in them. Throughout the abstracter parts of Prof. Steinthal's work his reverence for Kant induces him to speak of morality as something which indeed gives value and character to feelings, but yet itself derives no value from them. This dualism is often suppressed, and it is because the separation of Ideas from Feelings is not made there, that the Second Part is so instructive. (The difficulty reappears in his purely metaphysical doctrine in Part iv. On p. 408 perception as a chaos is contrasted with conception and law, and on p. 396 thing, quality, &c., are described as *only* ideas, whereas on p. 409 it is implied that even sensible knowledge is rational. These two views are never reconciled.)

This separation creates many difficulties. It is not easy to see in the first place whether the object of the formal feeling is the Idea itself or the Idea as modified by its peculiar psychological surroundings. The description of the Ideas as *categories* of formal feeling implies the latter, but if the feeling apprehends pure relations there seems no room left for modifications, which however appear to be assumed by Herbart.[1] The effect of the separation is most apparent in the psychological theory of action, where the group of ethical ideas is distinct from other groups of ideas suggested by ordinary feelings. Here the Ideas, which are intelligible, are themselves ideas (*Vorstellungen*) and therefore have force (*Kraft*) by which they act upon other ideas and dominate them. But the ethical group does not exist apart from the latter but in them: we do not have first a feeling, then an idea of right, and then a right feeling, but the feeling is itself right in being of a certain quality or degree. In Prof. Steinthal's psychological view, moreover, the distinction of *Macht* and *Kraft* disappears, for the Ideas seem to have *Macht* only so far as the ethical group has superior *Kraft*, so that the *Macht* seems useless except so far as it can translate itself into *Kraft*. 'Authority,' to use Butler's word, was described (Part i.) as greater the less force it needed to use, that is, the less antagonism there was to overcome; but in the psychological explanation this is seen to be really the dominance of the ethical ideas, and therefore the *relative* expendi-

[1] *Allgemeine Praktische Philosophie*, p. 28. Herbart however regards them (with doubtful justice) as merely differences of degree: he speaks of "*mehr oder weniger stark ausgeprägte Nachbildungen der Ideen*".

ture of force is the greater. The distinction is in fact only valid if used to indicate that there is a difference in kind between an impulse as moral and impulses not moral, though the *intensity* of feeling which gathers round the former may be in a case of good action the smaller. And this is the way Butler represented the case, though he did not perceive any of the psychological questions it raised.

We may return to Part ii., which treats of the "Forms of Moral Life," that is to say, the institutions in which the Moral Ideas are centred. They form the objective world, the medium in which the moral individual lives. The value of this very interesting Part is that it enforces in detail the intelligible character, or what, in spite of the slight flavour of unction in the word, we may call the spiritual character of the ordinary facts of life. This is a way of thinking more or less traditional in Germany, but needing strong enforcement at the present day, when the distinctive features of moral life are in danger of being confused with their natural history. Beginning with the Family or Marriage, Prof. Steinthal goes on to take one by one the different elements in the development of society—science, art, religion, commerce, and finally the state itself, the rights of citizens and the right of property. The discussion of commerce, though somewhat long, is very instructive. Prof. Steinthal shows that, though commerce rests upon egoism, the desire of self-preservation, it is in fact in the highest sense a moral activity, implying trust and public spirit (pp. 206 ff.). In his view of the state he follows Wilhelm von Humboldt, and is determined by strong antagonism to the popular German idea of a 'Cultur-Staat' (p. 239), or state which regulates the relations which are usually regarded as the affair of society. It is impossible to get quite a consistent view of the state from Prof. Steinthal: at one time it seems to be a means to a special end, the protection of rights, standing above other unions in the society only on account of its end (p. 235); here it is identified with the government. At another time it is declared equivalent to society in general regarded as watching over rights and duties; here the state, though still including only government and police, is still regarded as the whole society performing a certain function, and differs from the idea of the 'Cultur-Staat' only in the limits assigned to the functions. The value of Prof. Steinthal's discussion is a practical one, that the state should not convert into legal rights things which are much better left to the free action of individuals, and this needs saying in Germany. We may shortly refer to a number of topics which are treated suggestively and always in a liberal spirit—the need of greater freedom of teaching (in Germany) (p. 205), the relation of the schools to religion (p. 203), the right of atheism to be regarded as one form of religion (p. 226), the duty of taking an oath when prescribed by the state (p. 250)—Mr. Bradlaugh may have seen Prof. Steinthal's book between this

Parliament and the last—and finally, the institution of property, in which he is willing that great changes should take place. Property he regards, with Herbart, as a trust left to the individual by society, just as society *leaves* a man his own children. An excursus is appended on Socialism, which Prof. Steinthal thinks necessary in some form or other in order to dispose of the setting a *price* on a man's labour: a man has *value* (*Werth*) which cannot be represented in money, but can only be acknowledged or esteemed. His socialism seems to be the rule 'To every one according to his needs'. But he will not hear of state-socialism: socialism must be the outcome of our associated life; the state must in fact vanish, and society take its place (where again the state appears equivalent to mere government). And he is equally certain that socialism must come not by annihilation of existing morality, but by the "gentle course of history," and it will require a change not in one country only but in all (p. 276).

Many other special parts of the book might be made subject of notice—*e.g.*, the treatment of Right in distinction from Morality under the head of the Idea of Right (Part i.) or the analysis of Imitation (pp. 325 ff.) in the psychological part, most of which requires for appreciation reference to the *Abriss der Sprachwissenschaft*. The advisability of calling a child's action in sucking a reflex (p. 322) is very questionable (cp. Wundt, p. 412).

The chief value of the book, then, taking it as a whole, lies in Prof. Steinthal's insistence on the spiritual character of morality, though how the spirit itself arises in his system it is not easy to discover from the *Ethics* itself. Quite apart from the defect of formality in the treatment, the intelligible character of moral actions is a truth which is always being forgotten, because morality so palpably implies events. And this truth leads on to what must be considered another truth, the conception of the objective spirit. The value of these truths is not diminished by their not being original: in particular, can this objective spirit be distinguished from the Absolute Spirit (rejected by Prof. Steinthal) as it is understood by those theories which conceive it most philosophically? With them it has national characters and historical development, and the conception of humanity is regarded (*e.g.*, by Prof. Green) as meaningless except as exhibited in individuals and societies.

S. Alexander.

VIII.—NEW BOOKS.

[*These Notes (by various hands) do not exclude Critical Notices later on.*]

The Politics of Aristotle. Translated into English, with Introduction, Marginal Analysis, Essays, Notes and Indices, by B. JOWETT, M.A., Master of Balliol College, Regius Professor of Greek in the University of Oxford. Vols. I., II. 1. Oxford : Clarendon Press, 1885. Pp. cxlv., 302, 320.

Since these volumes were first mentioned in MIND 41, a careful perusal of them makes it evident that matter for discussion must be looked for rather in the 'Essays' promised as the concluding part of vol. ii. than in the present instalment of the work. The character of the Translation (in vol. i.) and the scholarship of the Notes (which make up the present part of vol. ii.) are, of course, not subjects for a philosophical journal. Apart from them, the Preface and the Introduction (pp. i.-cxlv.) are all that there is to review ; and here the main questions of the *Politics* and others connected with them are constantly relegated for examination to the forthcoming 'Essays' (cp. xii., xxii., xxix., &c.). For the publication, then, of the 'Essays' we must wait in order to estimate the whole work as a contribution to political philosophy ; but hints as to their matter and manner may perhaps be gathered from the remarks which, in the Introduction, enliven or illustrate the Analysis of Aristotle's text. Short, and—with few exceptions—simply put, these *sententiolæ* recognise and meet the difficulty of bringing home everyday truths and generally-accepted experiences to the average university-student. That "property has duties as well as rights" (cxiii.) ; that "great offices of state should have each their own sphere divided according to the subjects with which government is concerned" (cxvii.) ; that "we ourselves are not aware how much in all mental investigations we are under the influence of language and of crude ideas inherited from the ancients" (cxxxiv.) ;—these, and apophthegms like these, constituting perhaps a third of the Introduction, derive from their position a peculiar force which might be lost in a different form of publication. It is promised that the 'Essays' shall also deal with the life and some aspects of the general philosophical work of Aristotle.

[A. G.]

The Principles of Sociology. By HERBERT SPENCER. Vol. I. Third Edition—revised and enlarged. London : Williams & Norgate, 1885. Pp. xii., 883.

In this third edition of a volume which has formerly received detailed notice in MIND (Vols. i. 128, ii. 141), although, by careful revision of every chapter, the text (now 761 pp.) has been reduced to the extent of forty pages, the bulk of the volume has not been diminished but rather materially increased. Important additions have been made, first, to Appendix A ("Further Illustrations of Primitive Thought"), "such as practically to constitute it a second demonstration of the thesis demonstrated in Part i.". This Appendix (pp. 765-817) has been increased to three times its original size (in the first edition). To the fifteen numbered paragraphs of Appendix B, on "The Mythological Theory" (pp. 818-829) a section has been prefixed giving an outline of the argument which follows,—to the effect that the theory of a primitive worship of heaven as

symbolising the infinite, afterwards passing into Nature-worship, is supported neither by inductive (archæological) nor by deductive (psychological) evidence, but is a foregone conclusion, theologically, and not scientifically, determined. Appendix C, on "The Linguistic Method of the Mythologists" (pp. 830-837), is new. Mr. Spencer here contends that the assumption of philologists "that there exists in all cases, or in nearly all cases, a rational root for a word" is rendered inadmissible by the knowledge that "at present there goes on what may be called by contrast an irrational genesis of words". In the absence of historical evidence of their origin in particular facts, entirely wrong etymologies (as is shown by illustrations) would seem plausible for words now in use. Similar formations cannot have been absent in primitive times; and there is no criterion by which one set of formations can be distinguished from the other. Those who advocate the mythological theory, for example, Prof. Max Müller, also set out with the postulate "that there were originally certain roots supernaturally given," and would, further, maintain "that mankind lost their original ability to frame abstract ideas and use the corresponding abstract words"; but this implies that the movement of thought is from abstract to concrete, or the reverse of that which it actually is. In the present edition, the means of verifying the statements contained in each paragraph (at first omitted for the sake of avoiding foot-notes) is provided in a section of "References" (pp. 839-68) compiled according to the method that has been followed in all the later Parts (separately published) of the *Principles of Sociology*. While references have thus been supplied (with no ordinary labour, for which the author has to thank Mr. H. R. Tedder and the late Mr. P. R. Smith), slight errors have also been removed in the quotations originally taken from *Descriptive Sociology*, "which, though not diminishing the value of the extracts as pieces of evidence, rendered them inexact". Lastly, a Subject-Index (pp. 869-83, due to Mr. F. H. Collins) has been added, greatly facilitating the use of a work so full of matter.

Lectures on Philosophy. First Series. By THOMAS MAGUIRE, Professor of Moral Philosophy; Fellow and Tutor, Trinity College, Dublin. London: Kegan Paul, Trench, 1885. Pp. 263.

These racy Lectures—"all grounded on the fact familiar to anyone that understands Plato or Hegel, that all knowledge involves two opposite elements, never separate and always distinct"—were, we believe, published last autumn, but have only now come to hand. They might have come sooner, occupied as some of them are so directly with the work of writers in MIND. When it it said that "they are intended for students in Logics and Ethics in Trinity College," the meaning appears to be that they have been delivered to that auditory, but under what circumstances and with what continuity (or discontinuity) is less apparent. The first of them, on "Some Facts of Perception and their Significance," reads like the inaugural lecture which it will have fallen to Prof. Maguire to deliver when he assumed his chair some years ago; but a whole year seems to have passed before it was followed by the next, on "The Will: in reference to Dr. Maudsley's *Body and Will*". The others,—on "Materialism," "Ethics founded on End" (Aristotle, Butler), "Transition from Ancient to Modern Philosophy" (Schoolmen, Descartes, Leibniz), "Kant"—may have followed at any time in the interval till last year, when Prof. Webb and a number of writers in this Journal or other periodicals gave identifiable occasion for the remaining five lectures (one of these, however, being no more than a note of three pages on Mill's Nameable Things, designed to show that the *Daily Telegraph* was not justified in saying, at some time or other, that Mill was a man whom Plato would have called *σοφός*). It is plain that the

Dublin students are kept, if somewhat irregularly, in pretty close touch with the world outside, and nothing could surpass the liveliness of their teacher's manner as he darts from topic to topic over the whole field of philosophic interest. As he says, with perfect truth, of our contributor, Prof. W. James, he is himself, decidedly, "one of the few writers on metaphysics who is [are] not lugubrious". If there is one point more than another which he is concerned to impress, it is the difference between philosophy and psychology: and this it is that more especially gives him occasion to direct his running fire of criticism upon various writers in MIND. It is rather apt to miss its mark from a disinclination or a sort of inability in the critic to fancy that others, from their own point of view, may be just as concerned as himself to establish the distinction. More than once, he gets such comfort from a certain editorial confession (as he takes it) of psychological collapse, that one is almost sorry to have to ask him to note that it was psychologists, not psychology, over whose shortcoming there was a regretful sigh vented in these pages some two or three years ago.

Psychology. Three Volumes by ANTONIO ROSMINI SERBATI. Vol. II. London: Kegan Paul, Trench, 1885. Pp. xv., 632.

In this second volume of his *Psychology*, although scholastic distinctions are still very prominent, Rosmini comes more into contact with modern thought than in the former volume, noticed in MIND, Vol. x. 139. He points this out himself, remarking that questions as to the essence of the soul, which were the subject of vol. i., were the first to be asked and belong to the earlier period of philosophy, while questions as to its development, its "becoming," were asked later, because men had grown tired of discussing the greater questions. When questions about "essences" are neglected, as in the last century, philosophy becomes superficial; but now the period of "philosophical superficiality," of "materiality and sensism," is passing, and it is possible to restore the older truths.

Thus in the former volume, as the author tells us, he had to be occupied with what is "almost entirely forgotten in ordinary treatises, refashioning and restoring it in such a way as (we trust) will not offend the taste of our contemporaries". This second volume deals with (1) the "acts, powers, functions, habits," that "issue from the essence" of the soul; (2) the laws of its "continual production and operation". An important place is taken in Rosmini's psychology by the distinction between direct perception and reflective consciousness. This is connected with his metaphysical doctrine of "being". Reflection is defined as "the faculty of applying the idea of being to our cognitions and their objects". The idea of being, as is seen especially in book iv. of the present volume, is derived from the fragments of the Eleatic philosophy; the difference, as Rosmini explains it, is that in opposition to the pantheism of that philosophy he maintains the real individuality of being. Ethical as well as psychological application is made of this idea, and is closely connected with its psychological development. "The supreme law of the practical reason" is declared to be "Recognise being,". For "if the law of the theoretic reason says: 'Being is the object of knowing,' the law of the practical reason says: 'Being ought to be the object of practical knowing'". The distinction made between the theoretic and the practical reason, or "rational principle in action," is not to be confounded with Kant's distinction, "who divided the theoretic and the practical reason into two faculties radically different". The practical reason is directed by a "cosmological law of harmony". "Divine Wisdom has placed order in the world. But this order is not in and through the world apart from spirit. On the contrary, it is by an order existing in and through spirit that the external world receives that substantial completion

that turns it from non-being into being. Order, therefore, in the world apart from spirit is not yet order, but is merely a rudiment of the order that is afterwards found in the world as existent in spirit. Hence the cosmological law of harmony must be followed by the psychological law which completes it: they are two parts of the same law, two real relations in which the same object is considered" (p. 597).

Scientific Theism. (Organic Scientific Philosophy.) By FRANCIS ELLINGWOOD ABBOTT, Ph.D. London: Macmillan, 1885; Boston: Little, Brown, 1885. Pp. xxiii., 219.

In this volume, published simultaneously in England and America, the author presents "a *résumé* of a small portion of a comprehensive philosophical system," of the nature of which some indication was given in his article on "Scientific Philosophy," MIND, vii. 461, here republished as an Introduction (pp. 1-56). The novelty of the book, he says, "lies in its acceptance, on the warrant of modern science and the scientific method, of the fact that we *do know* the objective relations of things, and in its attempt to develop the necessary philosophical implications and consequences of this fact, which phenomenistic modern philosophy steadily denies". The outcome of a scientific philosophy, occupying "the old Greek ground of the objectivity of relations" abandoned by mediæval Nominalism and its successor "Kantian *Apriorismus*," is "Teleology conjoined with Monism," which "yields the organic theory of evolution, or Scientific Theism," to be distinguished alike from the mechanical Deism that denies the immanence of God, and from the Pantheism that denies "all real personality whether finite or infinite". Critical Notice will follow.

(1) *Locke's Theory of Knowledge, with a Notice of Berkeley.* (2) *Agnosticism of Hume and Huxley, with a Notice of the Scottish School.* ("Philosophic Series," V., VI.). By JAMES M'COSH, D.D., &c., President of Princeton College. Edinburgh: T. & T. Clark, 1886. Pp. 77, 70.

These two numbers of the historical part of Dr. M'Cosh's Series are intended to lead to the conclusion that the natural realism of the Scottish school is the only means of escape from the consequences of Locke's theory of knowledge as historically developed first into the idealism of Berkeley and then into the scepticism of Hume and the agnosticism of Prof. Huxley. Kant (who is examined specially in No. vii. of the Series,—See MIND, Vol. x. 468) by his manner of meeting Hume has "opened the way for a more widespread and devouring infidelity than Hume's direct attacks ever did". The only effective way of meeting the idealistic and sceptical consequences of the one-sided development of Locke is to point out that "just as by the internal sense we know mind, so by the external sense we know matter" (No. v., p. 67), and, that "what we perceive originally are things, and what we perceive by the faculty that discovers relations are relations of things" (No. vi., p. 46). To the accounts of their philosophy are prefixed short sketches of the lives of Locke, Berkeley, Hume and Reid.

Proceedings of the Society for Psychical Research. Part IX. London: Trübner, 1885. Pp. 201-500.

In the present Part of these *Proceedings*, 200 pages are filled with a "Report on Phenomena connected with Theosophy," including from p. 207 to p. 380 an "Account of Personal Investigations in India and Discussion of the Authorship of the 'Koot Hoomi' Letters (with Appendices)," by Mr. Richard Hodgson. Nothing, apparently, could be more exhaustive (over-exhaustive?) than Mr. Hodgson's exposure of the arts of Madame Blavatsky and her confederates of the 'Theosophic' or 'Esoteric Bud-

dhist' persuasion. As some of the productions of the sect have been mentioned in recent Nos. of MIND, the concluding words of the Committee's Report regarding its foundress should be quoted: "We regard her neither as the mouthpiece of hidden seers nor as a mere vulgar adventuress; we think that she has achieved a title to permanent remembrance as one of the most accomplished, ingenious and interesting impostors in history". "Some Higher Aspects of Mesmerism" (pp. 401-24) by Messrs. Gurney and Myers, and "Further Report on Experiments in Thought-transference" by Mr. M. Guthrie (pp. 425-53), are the other chief contents.

Insomnia; and Other Disorders of Sleep. By HENRY M. LYMAN, A.M., M.D., Professor of Physiology and of Diseases of the Nervous System in Rush Medical College, &c., Chicago, Ill. Chicago: W. T. Keener; London: Trübner, 1885. Pp. x., 239.

The properly medical part of this work consists of three chapters (pp. 38-115), which strike the lay reader as at once comprehensive and thoroughly practical. They are preceded by a chapter (pp. 1-37) on "The Nature and Cause of Sleep," and followed by three others (pp. 116-229) on "Dreams," "Somnambulism," "Hypnotism". In the first, the author gives a very good and effective summary of the latest physiological speculation on the cause of sleep, agreeing himself with those who regard the notable changes of blood-pressure and circulation that take place as of secondary rather than primary import. "The cause of sleep must be sought in the molecular structure [condition] of the brain, rather than in fluctuations of the blood-current. In the present state of our knowledge it must be negatively represented [with Pflüger] as the consequence of a deficiency of the amount of movable oxygen in the nervous tissue." The concluding chapters give, partly from the author's personal and professional experience, partly by collation of the recent work of others, an interesting and instructive view of subjects that are now engaging the attention of many inquirers. The author brings so much good sense and sharp insight to bear upon most of the facts with which he deals, that he might have been expected to be a little more suspicious as to some other reports quoted and as to the possibilities of nature in connexion with them.

Esquisse d'une Classification systématique des Doctrines philosophiques. Par CH. RENOUVIER. 2 Vols. Paris: Au Bureau de la *Critique philosophique*, 1885, 1886. Pp. 490, 420.

In this new work M. Renouvier seeks to base his philosophical system on the historical study of doctrines. His method of study is to describe successively the positions taken up by each thinker in relation to the chief antinomies of philosophy. The oppositions that are made the ground of this classification of doctrines are these:—Thing, Idea; Infinite, Finite; Evolution, Creation; Necessity, Liberty; Happiness, Duty; Evidence, Belief. After treating these antinomies historically in six Parts, which fill the whole of vol. i., and pp. 1-126 of vol. ii., the author goes on to establish his conclusions; the assumption being that in each antinomy either the thesis or the antithesis (once rationally stated) must be true. Critical Notice will follow.

Études physiologiques et psychologiques sur le Somnambulisme provoqué. Par H. BEAUNIS, Professeur de Physiologie à la Faculté de Médecine de Nancy. Avec 4 Figures intercalées dans le Texte. Paris: J. B. Baillière et Fils, 1886. Pp. 106.

These studies on hypnotism, in part physiological (pp. 1-47), in part psychological (pp. 48-99), are not intended to lead up to any positive con-

clusion, but to prepare the way by experiment and analysis for a synthesis which the author regards as impracticable till more is known of the functions of the brain and of the physiology of natural sleep. The aptitude to carry out suggestions which characterises the hypnotic state results, he thinks, from a kind of "cerebral shock". He does not deny that communication of thought may take place without physical signs, but has not observed any case of it in his own experience.

La Psychologie du Raisonnement. Recherches expérimentales par l'Hypnotisme. Par ALFRED BINET. Paris: F. Alcan, 1886. Pp. 171.

The object of this book, by an author who is well known to the readers of MIND, is to arrive at a psychological theory of reasoning; this being, as Wundt has contended, the fundamental form of psychical activity, from which all other forms, such as memory and imagination, have sprung and to which they may be reduced. The act of perception, on grounds afterwards more fully explained, is selected at the beginning for special study. It is found that what takes place in perception exactly resembles syllogising. Psychologically, both processes consist in an "organisation of images," determined by the properties of the images alone, taking place necessarily when these are brought together, and the same whether the process is conscious, as in the developed form of reasoning, or unconscious, as in the formation of percepts. In this process there are always three terms:—(1) a present image or sensation which becomes "fused" with (2) an image that resembles it, and (3) an image associated with the second by similarity or contignity, which in the percept or the conclusion of the syllogism becomes attached to the sensation or first image (or rather to the product of the "fusion" of this with the second). The psychological nature of the process could not have been detected by study of the syllogism alone, but only by observing it in the percept, where the images are not yet obscured. This is why the percept was selected as the object of study. But further, to discover the exact character of the organisation of images in normal perception, it was necessary to have some method of exaggerating the elements and observing them in isolation. This has been found in the study of illusions and hallucinations, especially the artificially produced hallucinations of hypnotism. Between these hallucinations and normal perception there is a whole series of intermediate states. Ordinary illusion, hypnotic illusion, and hypnotic hallucination are more and more accentuated distortions of perception. As in perception there is always an element of imagery, so in the most exaggerated forms of hallucination there is always an element of sensation. M. Binet describes this as the "point de repère". Imagery is the same in character throughout, consisting of copies of sensations; is always cerebral; and is localised in the same part of the brain as the corresponding sensation. These conclusions are led up to by accounts of the different types of imagery in different persons ("the visual type," "the auditory type," "the motor type") and of "after-images," which are found to have both the positive and negative characters of the ordinary image, not of the sensation. As the elements of perception and hallucination are the same, so also the process is the same. The difference is that in normal perception, as in rightly constructed syllogism, there is correct judgment, while in illusion and hallucination there is sophism; but this is a logical, not a psychological distinction.

Philosophie du Droit civil. Par AD. FRANCK, Membre de l'Institut, Professeur au Collège de France. Paris: F. Alcan, 1886. Pp. vii., 295.

The author bases his "philosophy of civil law" on the ideas of "right"

and "duty" regarded as absolute and fundamental, and each containing the other. These two ideas suppose a third which is not less necessary, *viz.*, free-will (p. 4). All three may be established by simply considering the nature of "the human person". From consideration of the particular relations of the human person the following rights are found to belong to all men by the mere fact that they exist: the right to life, the right to individual liberty, the right of property, liberty of conscience, of thought and of speech. The fact that liberty is only possible in a social order determines the character of society and of positive legislation. Since marriage and the family are the basis of society, it is necessary first to discuss the form these ought to assume consistently with the admission of equal personal rights. This discussion occupies about a third of the book. Then the author goes on to define the right of property, defending it against the arguments of Proudhon. After discussing intellectual property, he proceeds to the discussion of questions of liberty and tolerance; returning finally to property in an appendix on M. Fouillée's work *La Propriété sociale et la Démocratie.*

La Philosophie des Médecins Grecs. Par EMMANUEL CHAUVET, Professeur à la Faculté des Lettres de Caen. Paris: E. Thorin, 1886. Pp. lxxxix., 604.

In his introductory historical sketch (pp. ix.-lxxxix.) the author shows that as Greek philosophy from the beginning to the end allied itself with medicine, adopting medical theories from the physicians and developing them on its own account, so, on the other hand, medicine allied itself with philosophy, each medical school having a complete philosophy of its own, partly taken from the philosophers and partly developed independently to suit the needs of medical science and practice. The object of the book is to set forth as completely as possible the philosophy of the physicians—both their general philosophical theories and those that specially concern the medical and biological sciences. It is pointed out that the historian has to confine himself practically to Hippocrates and Galen; and accordingly the body of the work falls into two portions, the first of which (pp. 1-99), under the main heads of "Logic," "Morals," and "Physics," deals with all the writings attributed to Hippocrates, the second (pp. 101-583) with Galen, "Physics" being here divided into "Psychology" (pp. 284-486) and "Theology" (Galen's cosmology being omitted). Sections are appended on "Origins of the Philosophy of Hippocrates" (pp. 94-9), "Galen, Historian of Philosophy" (pp. 519-75), and "Origins of the Philosophy of Galen" (pp. 576-83). The general results of the author's investigation are summed up in the "Conclusion" (pp. 584-601). The real additions made by medicine to the ideas current in the philosophical schools are found to be chiefly, or even exclusively, in psychology. As regards the question of the seat of the soul, medicine was able to correct philosophy; and Erasistratus,—whose view was too lightly rejected by Galen,—had even arrived at the idea of cerebral localisation. The physicians added to the five senses "internal sensibility," totally neglected by the philosophers, and revolutionised the theory of the senses by assigning sensibility to the nerves. Galen assigned correctly the functions of the motor nerves and the muscles; with him "physiological determinism" appears for the first time in history; and although the treatment of the psychology of sleep and dreams by the physicians was on the whole inferior to its treatment by the philosophers, Galen was able to correct Aristotle by showing that the motor faculty is not entirely abolished in dreams. In dealing with such subjects as mental "habit" and "disease," the physicians are again superior to the philosophers.

Opere Filosofiche di ROBERTO ARDIGÒ. I. *Pietro Pomponazzi. La Psicologia come Scienza positiva.* II. *La Formazione naturale nel Fatto del Sistema solare. L'Inconoscibile di H. Spencer e il Positivismo. La Religione di T. Mamiani. Lo Studio della Storia della Filosofia.* III. *La Morale dei Positivisti. Relatività della Logica umana. La Coscienza vecchia e le Idee nuove. Empirismo e Scienza.* Vol. I., Mantova: L. Colli, 1882; Vols. II., III., Padova: A. Draghi, 1884, 1885. Pp. 435, 454, 455.

These are three volumes of the collected works of one of the most distinguished representatives of scientific philosophy in Italy. The work by which the author is best known, *Psychology as positive Science*, first published in 1870, makes up the greater part of vol. i. It is preceded by a Discourse on "Pietro Pomponazzi" (i., pp. 1-52), delivered at Mantua, March, 1869, and followed by other writings published at various dates since then, of which the most extensive are those on the formation of the solar system (vol. ii.) and on the Ethics of Positivism (vol. iii.). Three more volumes are yet to appear. The present edition is not a mere reprint, the author having filled up some lacunæ of former editions and retouched the expression in parts. His philosophical system, as he tells us, was formed as a whole before he began to publish; and more by direct study of science than by the influence of modern philosophic writers such as Comte, Mill and Spencer; with "the older metaphysicians" he was familiar before beginning his scientific studies. The most prominent difference of his Positivism from the Positivism of Comte is the importance he gives to subjective analysis. As aids and instruments of psychology, every possible use is to be made of physiology, archæology, linguistic science, &c.; but it is never to be forgotten that psychology is an independent science, distinct from all other sciences, and particularly from physiology. To think, as many do, that the science of the life of thought must henceforth leave the field to the science of the life of organs, is an error that does not deserve even to be combated (i. 172). For the physiology itself of the nervous system to make progress, the aid of psychology is necessary. The physiologist who is without knowledge of psychology "believes with the vulgar that the acts which are ascribed to the so-called faculties are simple, and those of the one totally diverse from those of the other, and goes in search of the corresponding organs". Mental facts,—from which, and not from "faculties," we must set out,—can all be reduced to sensations and their elements, combined in various ways according to the laws of association. The positive study of mental facts enables us to pass beyond not only the "faculties" but even the abstractions of "matter" and "spirit," and to attain to the conception of a "psychophysical reality or substance". The external states of which this conception asserts the parallelism with internal states are not to be regarded as extra-mental states "mysteriously" connected with the terms of a subjective process; since ultimately even extension can be resolved into data of sensation, just as much as sounds and colours. It is therefore a mere illusion that makes the relation of body and mind seem an insoluble problem; the illusion, namely, of regarding the distinction of subject and object as primitive when it is only a distinction of two orders of mental facts. The "datum of sensation" is anterior to the distinction of *Ego* and *Non-ego*, and may come to be referred by the mechanism of cognition to either term of the contrast. This datum is best described as "psychophysical" because, although the material world is in ultimate analysis mental, it is not "subjective" in the narrower sense that seems to be implied in the statements of idealists, but is "primitively indifferent". The author arrives by this mode of consideration at what he correctly describes as the "ontological" doctrine that "in the world of spirit the sensation, as real and true datum, has the same

absolute indestructibility as the atom in the material world" (i. 240). The distinctive character of his position is, however, occasionally obscured by his repudiation, in the ordinary language of Positivism, of all "metaphysics" and "search for essences and causes". His general philosophical doctrine is that "facts," material and spiritual, which, as we have seen, are all, in ultimate analysis, mental phenomena, resolvable into sensations and elements of sensation, are the reality; and that, in all propositions about this reality, the truth is in "the particular," in sensation and its elements, not in the mere form of association or mental construction. This Positivism differs from the incomplete Positivism of Hume in getting rid of the ultimate doubt and the falling back on a blind "instinct of nature"; for it affirms not only that phenomena are all that we can know, but that they are reality itself. Of this kind is the Positivism of the Italian philosophers of the Renaissance, especially of Pomponazzi, the earliest of them, who constantly appeals to experimental verification, and in one place declares that "sense and experiment are the balance of truth". To Galileo belongs "the title of father of Positivism, not only in the physical sciences but also in the philosophical sciences properly so called" (ii. 436). Positive philosophy represents the true direction of Italian thought, destined, it is hoped, to resume its course as growing national life gains the victory over foreign and mediæval influences. In its application to ethics, Positivism continues the Greek tradition. Its morality is social, like that of Aristotle, not individualistic, like that of Scholasticism, which at last found its most rigorous expression in Kant (iii. 165).

La Dottrina dello Stato di G. G. F. Hegel e le altre Dottrine intorno allo stesso Argomento. Studio comparativo del Dr. Giuseppe Levi, Professore di Filosofia del Diritto nella R. Università di Catania. Vol. I. (i. "Preliminari," ii. "Esposizione interpretativa della Dottrina di Hegel"). Vol. II. (iii. "La Dottrina dello Stato nei Libri di Platone e di Aristotele e la sua Comparazione con la Dottrina di Hegel"). Roma: E. Loescher, 1884. Pp. 127, 257; viii., 434.

These two volumes bring together three successive parts (first published in 1880, 1881 and 1884 respectively) of a work which is not yet finished, but which has now a certain completeness as far as it goes. The author has, so far, expounded Hegel's doctrine of the State and compared it with those of Plato and Aristotle; in future instalments he proposes to compare it in detail with the doctrines of modern philosophers. Part i. is a preliminary statement of the general principles of Hegel's philosophy (with special reference to his doctrine of the State) and a defence against objections; Part ii. contains the doctrine of the State itself; Part iii. begins with an exposition of the corresponding doctrines of Plato and Aristotle, and then proceeds to a comparison of Hegel's doctrine with theirs. The comparison is made (1) in regard to the conception of the State as "organism" (not "mechanism"), (2) in regard to the character of this conception as "concrete" (not "abstract"), (3) in regard to its character as "statual" (not "individualist"), in all of which points there is agreement between the doctrines of all three philosophers. Hegel's doctrine is found to be in each respect superior to that of the Greeks. In the first place the State is no longer conceived as a merely "natural" organism analogous to a plant or animal, but as a "spiritual" or "ethical" "organism of wills"; secondly, the ideal State is conceived not as artificially formed by legislation imposed as from without, and henceforth (having received perfect laws) as stationary, but as spontaneously formed by the wills of its members and constantly growing; lastly, the parts of the social organism are not conceived simply as members with functions in relation to the whole,

but as being at the same time ends for themselves. The superiority of Hegel's conception is due to the progress that has taken place in the passage from ancient to modern modes of practice and thought. Hegel has reconciled modern individualism, so far as it can justify itself, with that conception of the State as an organic whole which he was enabled, by his study of the Greeks, to recover for the modern world.

La nuova Biologia. Saggio storico-critico in servigio delle Scienze antropologiche e sociali. Per PIETRO SICILIANI, Professore Ordinario nella R. Università di Bologna. Con Tavole tassinomiche. ("Biblioteca Scientifica Internazionale.") Milano: Fratelli Dumolard, 1885. Pp. xxvi., 408.

The leading idea of this book is that the history of biology ought to be treated all along in relation to the history of general philosophical conceptions. The historical part (pt. i., pp. 1-208), is divided into an introduction (pp. 1-35) and four chapters treating successively of biology in classical antiquity, in the middle age, in the renaissance and modern times, and in the present century. The author finds that there are, in all, three philosophical directions, *viz.*, dogmatism (or "affirmation"), scepticism (or "negation"), and "critical positivism" (or "research"). It is to this last that the future belongs. As schools in philosophy by their conflicts have caused progress, which on the whole has been continuous, so also in biology. In the present century three biological schools have tended more and more to affirm themselves as distinct systems, and to pass into "metaphysics"; yet within each school there has been progress in scientific ideas. These schools are those of "creation" (represented by Cuvier), of "mechanical evolution" (represented by Haeckel), and of "teleological evolution" (represented by Schelling, Hegel, Hartmann, &c.). All schools (including the "Neo-Cuvierians") now accept evolution in some form, while the "mechanical" evolutionists (including even Haeckel) do not consistently maintain the materialistic metaphysics to which their system tends. To show how this progress has come about by the conflict of the three schools is the object of part ii. ("Critical Examination," pp. 211-408). We have learned, with regret, that the author died in December, at the age of 50.

Einleitung in die Psychologie als Wissenschaft. Von Dr. HEINRICH SPITTA, a. o. Professor der Philosophie an der Universität Tübingen. Freiburg i. B.: J. C. B. Mohr (Paul Siebeck), 1886. Pp. viii., 154.

The longest and most important chapter of this *Introduction to Psychology as Science* (c. iii.—numbered iv. in the Table of Contents—"Principle and Method of Psychology," pp. 37-129), begins with a defence of the method of "self-observation". It is shown that this method really consists in observation of facts of consciousness, not as present but as remembered. On analysing any remembered conscious process, we find in it unity of form, multiplicity of content, and determination in time and space. When by abstraction we take another step in analysis, when instead of attending to single isolated mental processes as they are revealed by memory, we attend to that which they have in common, "feeling" and "representation" are found to be the ultimate elements of all mental processes. Will is not entitled to an independent position, for it is a complex of representations and feelings. In conscious life not only is there change of representations and feelings, but there is determinate change, the laws of which are formulated as the "laws of association". To go beyond these laws we must substitute a synthetical method for the analytical method hitherto followed, and make a hypothetical construction. It is found that the

unity of consciousness requires us to assert—in psychology only as a "problematical conception"—the existence of the soul as "immaterial substance"; and this is the desired hypothesis. The central chapter is led up to by two others (divided into three in the Table of Contents) in which the position of psychology as "phenomenology of consciousness" is defined in relation to the three divisions of philosophy proper, *viz.*, (1) logic, (2) metaphysics (theoretical), (3) ethics (practical). Chapter iv. contains a scheme of classification of psychological phenomena; the ground of division being the relation of body and mind. From the point of view of this relation the soul is to be observed in three processes: (1) "receptive," (2) "reproductive," (3) "productive" or "creative". Chapter v. gives a short account of "the aids of psychology" (physiology, &c.). The author's leading philosophical positions, indicated in the two introductory chapters and in a digression of c. iii., are derived from Lotze.

Erfahrung und Denken. Kritische Grundlegung der Erkenntnistheorie. Von Johannes Volkelt, Professor der Philosophie an der Universität zu Basel. Hamburg u. Leipzig: L. Voss, 1886. Pp. xvi., 556.

The author, whose criticism of Kant was noticed in Mind, Vol. v. 145, now goes on to lay the foundations of his positive theory of knowledge. Theory of knowledge is, for him, "in the strictest sense, the presuppositionless science". In Kant there is the presupposition that universal and necessary knowledge exists; and in contemporary theories of knowledge there are all kinds of concealed metaphysical, logical and psychological presuppositions, above all the presupposition that "there is no existence outside consciousness". The problem of theory of knowledge is first to find out whether there is any objectively valid truth at all. The starting-point, therefore, must be the doubt whether anything can be known beyond the states of the individual mind. Accordingly theory of knowledge is subjective; and with this subjective character is bound up its character as having no presuppositions. This means that it is a "theory of certitude". Objective truths (if such exist) must first of all present themselves in the form of subjective knowledge. Now among the states of which the mind has immediate (subjective) certainty, there are ultimate principles with objective reference. It is found that "the objectivity of knowledge," implied in these principles, "at bottom rests on a single principle, that of the Logical, or of thinking". "The thinking self-activity of consciousness," carrying with it the certainty of an objective—or, as the author would prefer to call it, "trans-subjective"—existence, is therefore the desired basis of universally valid truth. The book is divided into eight sections: (1) The scientific Necessity of Theory of Knowledge; (2) Pure Experience as Principle; (3) The Principle of logical Necessity in its universal Signification; (4) Knowledge as Co-operation of Experience and Thought; (5) The subjective Factors of Knowledge; (6) The Concept in its Significance for Knowledge; (7) The Kinds and Sources of the Uncertainty of Knowledge; (8) Concluding Considerations.

Die Ethik des Utilitarismus. Von Emil Kaler (aus Graz, Steiermark). Inaugural-Dissertation zur Erlangung der Doctorwürde, eingereicht bei der philosophischen Facultät der Universität Basel. Hamburg u. Leipzig: Leopold Voss, 1885. Pp. 78.

This doctoral thesis is divided into two Sections, the first dealing with "individualistic," the second with "social" Utilitarianism. From experience, the author contends, it is only possible to obtain a hypothetical, not a categorical imperative. The difficulty of having a purely formal

character, which is found in Kantian ethics, affects also the ethics of Utilitarianism; for the principle of eudæmonism, like the Kantian principle, can give morality no objective content. Social Utilitarianism is no more capable than individualistic Utilitarianism of proving the harmony of individual and social interests. With a doctrine founded on experience the conception of society must remain either the conception of a sum of individual interests or of an external authority. The unity of the individual and society which is required in order to establish universally valid moral principles can only exist *a priori*. Social life, therefore, and the impulse to seek happiness are only the conditions of the origin of morality, not the grounds of the principles of morals. Moral laws must have their roots in the rational nature of man, not so far as it is theoretical, but in its practical legislating activity (p. 73).

Anthropologische Studien. Von HERMANN SCHAAFFHAUSEN, Dr. Med. und Professor in Bonn. Bonn: A. Marcus, 1885. Pp. ix., 677.

The author has collected in this volume a variety of "anthropological studies" published in periodicals and the transactions of scientific societies during a period beginning with 1839, the date of his inaugural dissertation for the medical degree (*De vitæ viribus*), a translation of which heads the series. All the papers, however different their content, aim at showing the truth of "two views, first won in recent times," *viz.*, the doctrine of organic evolution and the doctrine that psychical evolution runs parallel with this. The author thinks, however, that it is a weakness of Darwinism, as ordinarily interpreted, to attach too little importance to the influence of external conditions, such as climate, in producing the races of mankind. "For the progress of mankind," he holds, "the struggle of races is almost a matter of indifference." Progress is due to the development of intellect and knowledge, not to a struggle for existence; and "man is not a child of nature, but a child of education" (p. 418).

Die Einleitung in die Philosophie vom Standpunkte der Geschichte der Philosophie. Von LUDWIG STRÜMPELL, Professor an der Universität zu Leipzig. Leipzig: G. Böhme, 1886. Pp. 484.

The result of the author's consideration of philosophy from the point of view of its history is that the three most influential directions of philosophical thought have always been Scepticism, Materialism and Pantheism (or, as it is now called, Monism). At the present time the first is only "a pseudo-philosophical tendency"; but towards the other two an Introduction to Philosophy must take up a definite attitude. The author defines his position "from an opposing standpoint" "in such a manner as he deems fitting in view of youthful thinkers". He holds firm to the principle that a conflict between theoretic knowledge on the one hand and ethical and religious truths on the other must always be decided in favour of the two last, because theoretic knowledge is always of problematical nature and of less value than ethical and religious knowledge (p. 5). The chief divisions of the work are (1) "The Questions and Problems, the Conception, Parts and Subdivision of the principal Directions of Philosophy" (pp. 10-74), (2) "The Directions of Theoretical Philosophy" (pp. 75-401), (3) "The Directions of Practical Philosophy" (pp. 402-467), (4) "Philosophy of Religion" (pp. 468-484).

Ueber die Lautgesetze. Gegen die Junggrammatiker. Von HUGO SCHUCHARDT. Berlin: R. Oppenheim, 1885. Pp. 39.

An argument against what appears to the author the too stringently scientific character claimed for laws of phonetic change by the younger

school of grammarians. The influence of arbitrary elements, such as conscious imitation, is sufficient, he contends, to deprive these laws of their universality; and if there is any phonetic law without exception, it is that every change of sound, in at least one of its phases, is sporadic. The assumption that phonetic laws have no exceptions, instead of being, as some have urged in its defence, a useful instrument of research, is really a hindrance, as diverting attention from the investigation of causes; for the laws of phonetic change in any case are only empirical laws.

Die Platonische Philosophie nach ihrem Wesen und ihren Schicksalen für Höhergebildete aller Stände dargestellt. Von Dr. G. P. Weygoldt, Kreis-Schulrat in Lörrach. Leipzig: O. Schulze, 1885. Pp. 256.

This book is intended as a popular account of the Platonic philosophy and its fortunes. A short sketch is first given of what is known of Plato's life; about a third of the book is devoted to the Platonic doctrine itself; in the rest the doctrines of the Old, the Middle and the New Academy and of Neo-Platonism, and the struggle of Neo-Platonism with Christianity, are described. The last chapter (pp. 243-254) briefly indicates the nature of Plato's influence in mediæval and modern times. The author contends that Neo-Platonism did not succumb to Christianity because of its ethical and religious weakness, but because early Christianity derived strength from the idea of social reform, while Platonism, both early and late, was the most aristocratic of all the philosophical systems of antiquity. On its religious side, Platonism had much in common with Christianity, and the mediæval hierarchy has considerable resemblance to the Platonic State. The fundamental weakness of Plato's doctrine is the separation of the ideal and sensible worlds. From this it derived a theological and anti-scientific direction and a tendency to pass into religious fanaticism. Plato's strongest point, the author thinks, was the stress he laid on complete education of the citizen, and above all of the statesman.

Aphorismen zur Lebensweisheit. Von Arthur Schopenhauer. Separatausgabe aus *Parerga und Paralipomena*. 2 Bändchen. Leipzig: F. A. Brockhaus, 1886. Pp. xi., 137; xii., 144.

Ueber den Tod und sein Verhältniss zur Unzerstörbarkeit unsers Wesens an sich. Leben der Gattung. Erblichkeit der Eigenschaften. Von Arthur Schopenhauer. Separatausgabe aus *Die Welt als Wille und Vorstellung*. Leipzig: F. A. Brockhaus, 1886. Pp. xiv., 119.

The first of these reprints (in two small volumes, taken from the *Parerga und Paralipomena*) is put forth by the editor, Herr Wilhelm Gwinner, not as containing Schopenhauer's characteristic doctrine, but as written from a point of view intermediate between his genuine ethical view and the view of ordinary practical life, and therefore well adapted to prepare for the reception of his philosophy readers who are as yet unfamiliar with it. While Schopenhauer's ultimate aim is to persuade men to renounce entirely the search for happiness, this part of his work assumes happiness as the end; the purpose being to show that at any rate it is not to be attained by pursuing external objects, but can only be found within. This position, once attained, makes accessible the higher point of view. The other volume is a reprint of chaps. 41-43 of *Die Welt als Wille und Vorstellung*. These chapters the editor has selected as the best introduction to Schopenhauer's real philosophy; of which he conceives the most important idea to be that of "the immortality of the race," for the sake of which the death of the individual is necessary, but in which all the real being of all men is preserved. In this idea he sees the indication of a point of view beyond Schopenhauer's own.

Ideale Fragen, in Reden und Vorträgen behandelt von Prof. Dr. M. Lazarus. Dritte, durchgesehene Auflage. Leipzig: C. F. Winter, 1885. Pp. 414.

The aim of these essays (first published in 1878 and now appearing in a third edition), so far as they are philosophical, is, by bringing into view the conception of the whole and the ideal side of things, to do something towards counteracting the narrowing influence of scientific "division of labour," which the author finds to be the foundation of the chief characteristics, good and bad, of the spirit of the present time. All of them have been, at least in portions, delivered orally; the first being a discourse held at the unveiling of the monument of Herbart at Oldenburg on the centenary of his birth, 4th May, 1876. The remaining essays are (2) "A Psychological Glance into our Times," (3) "The Heart," (4) and (5) psychological studies of "Time" and "Conversation," (6) "Thoughts on Enlightenment". They are all excellent specimens of the author's psychological art and welcome pendants to the larger "monographs" of the *Leben der Seele*.

Gesammelte Schriften von A. Spir. I., II. *Denken und Wirklichkeit.* III. *Schriften zur Moralphilosophie.* IV. *Schriften vermischten Inhalts.* Leipzig: J. G. Findel, 1884, 1885. Pp. 416, 322, 285, 226.

The second edition of the first two volumes of these *Collected Writings* was noticed in Mind, Vol. ii. 276. They now appear in a third edition, revised and in part rewritten, and take their place as the metaphysical basis of the author's moral and religious philosophy, set forth in vol. iii. The first part of vol. iv. consists of essays dealing with various aspects of the principles explained systematically in the other volumes; the latter part ("Vereinzelte Anschauungen und Gedanken," pp. 157-226) is a series of detached reflections. The author's metaphysical doctrine is, briefly, that since "the things of experience have no true being of their own," therefore "the true being of things lies outside experience". It has been the merit of experientialism, especially as carried out by Hume, to show that both inner and outer experience is illusory; that external things are not, as we take them to be, substances identical with themselves, but only our own impressions variously grouped; and that our impressions are a perpetual flux and our individuality a mere succession of states, not a permanent thing. The *a priori* school, on the other hand, has had the merit of seeing that there really is a "norm" to which the true being of things must be conformable. The norm, the fundamental law of thought, is that "every object is in its own being identical with itself". Since experience seems to correspond to this norm but does not, it must be described as "a systematically organised illusion". To escape, by means of intellectual insight, from this illusion is the aim of morality. The highest good for the "true self," which is outside the "individuality," is attainable by action in accordance with the "normal," as distinguished from the "empirical" nature; that is, by action according to a principle opposed to "natural egoism". The element of illusion and evil in the world, the "abnormal" character of the empirical nature of things, shows us that "the unconditioned," "the norm," which is at once "self-identical," as being conformable to the fundamental law of thought, and an ideal of moral perfection, cannot be the ground or cause of experience any more than it can be part of experience. The object of religion, therefore, ought not to be any power active in nature, but "the true, higher being of man himself as of all things," "not the Ruler, but the Ideal". "Belief in God is the condemnation of Nature, of common

reality." In all actual religions there is a mixture of elements; moral attributes being ascribed to an external power that claims obedience. They must therefore be regarded as compromises between the primitive religion, "the religion of fear," which had no ethical element, and the ideal religion, "the religion of love," in which the ethical element is supreme. Yet although ideal perfection cannot be affirmed of the ground of things,—evil being an integral part of the natural order and not a mere accident,—we are to see in "the Logos that acts and manifests itself in Nature" an effort, at first unconscious but finally attaining consciousness in man, towards the divine, the ideal. Evolution from lower to higher necessitates a teleological view according to which the process of things has an end,—the norm, the perfect, the unconditioned,—outside itself. The idea of such a teleology, from which all anthropomorphism shall be excluded, is developed in vol. ii., bk. 1, c. 10, and in an essay ("On the End of Nature") in vol. iv. The latter part of vol. iii. (pp. 195-385) contains the social applications of the author's doctrine. His political as well as his ethical speculations have much interest of detail independently of their philosophic basis.

Beiträge zur Geschichte der neuern Philosophie vornehmlich der deutschen. Gesammelte Abhandlungen von RUDOLF EUCKEN, Professor in Jena. Heidelberg: G. Weiss, 1886. Pp. iii., 184.

The three German thinkers who have been selected as the subject of the first of these essays are Nicholas of Cusa, Paracelsus and Kepler. The aim is carefully limited at the opening, all Kepler's purely astronomical ideas being excluded, and only one doctrine of Paracelsus being specially studied, *viz.*, that of "development" (a view of the whole world as an organism having stages of life analogous to those of an individual); but this method enables the author to give a pretty complete picture of the leading conceptions that found expression in Germany at the dawn of modern thought. The points which he brings out are that these early German speculations, like the philosophy of the Renaissance generally, derive their impulse from a break with Scholasticism; that they are built up out of elements to be found in ancient philosophy, especially in the writings of the Neo-Platonists; and that they are yet essentially original in the direction given to them by the effort to find expression for a new and distinctively modern view of the world. In the second essay ("On Images and Comparisons in Kant") an attempt is made to show that Kant's illustrations (if we take the most important and those that are oftenest repeated) have a character of their own from which the chief characters of his philosophical system might be inferred. The next essay gives a balanced estimate of the merits of Trendelenburg both as a systematic philosopher and as a historian of philosophy. The last of the series is a contribution to the history of Party-names in philosophy. One result of this research is that the nomenclature of philosophic parties that is at present in use comes chiefly from three sources,—(1) antiquity, (2) the beginning of the modern period, (3) the most recent times. It is interesting to learn that "among modern peoples none has been so productive in this field as the English," and that it continues to be so up to the present. From the examples given, the generalisation may be made (although the author does not make it himself) that names with a theological bearing have originated in England, names with a political bearing in France, and names that are strictly philosophical in Germany. Transitions of meaning in the passage from one age and country to another are, of course, an important part of the study. The transitions seem to be such as might be looked for if we generalise as suggested.

Institutiones Juris naturalis seu Philosophiæ moralis universæ secundum Principia S. Thomæ Aquinatis ad usum scholarem adornavit THEODORUS MEYER, S.J. Pars I. Jus Naturæ generale continens Ethicam generalem et Jus sociale in Genere. Cum Approbatione Rev. Archiep. Friburgensis. Friburgi Brisgoviæ: Herder, 1885. Pp. viii., 498.

This is the second of the series of works dealing with philosophy from the Scholastic point of view begun by Father Pesch's *Institutiones Philosophiæ naturalis* (See MIND, Vols. vii. 424 and viii. 144), and forms the first part of a treatise on moral philosophy. In this part all the general questions of ethics and philosophy of law are discussed and decided according to principles derived from Thomas Aquinas. It has been found necessary (the author says) to refer frequently to later writers on the same subjects, and especially to the more recent, not indeed for the sake of completing the doctrine of S. Thomas—for, as far as moral science is concerned, hardly anything is to be found really established in modern authors that has not already been in some manner either explicitly or implicitly asserted, and for the most part still more clearly and fully treated by the Angelic Doctor; but "partly that new errors which are to be vanquished by ancient truth may be known from their own new springs, partly that the historical evolution of science and its present condition may appear". The references both to modern and to ancient authors are extremely copious.

RECEIVED also :—

W. R. Gowers, *Lectures on the Diagnosis of Diseases of the Brain*, London, J. & A. Churchill, pp. vi., 246.

J. K. Bluntschli, *The Theory of the State* (Authorised Translation), Oxford, Clarendon Press, pp. xx., 518.

E. B. Bax, *A Hand-book of the History of Philosophy*, London, G. Bell, pp. 419.

Hegel & Michelet, *Philosophy of Art* (Translation), Edinburgh, Oliver & Boyd, pp. xv., 118.

P. K. Ray, *A Text-book of Deductive Logic*, 2nd Ed., London, Macmillan, pp. xvi., 311.

J. Longland, *Who and what is God?*, 2nd Ed., London, Hamilton, Adams, pp. 79.

E. Droz, *Étude sur le Scepticisme de Pascal considérée dans le Livre des Pensées*, Paris, F. Alcan, pp. 394.

C. Lafontaine, *L'Art de Magnétiser*, 5me Éd., Paris, F. Alcan, pp. xii., 314.

G. Cesca, *Il Monismo meccanistico e la Coscienza*, Treviso, L. Zoppelli, pp. 29.

B. Labanca, *Il Cristianesimo primitivo*, Torino, E. Loescher, pp. xxiv., 448.

Abelardius, *La Religione come Scienza*, Cremona, Tipog. sociale, pp. 111.

A. Bastian, *Die Seele indischer u. hellenischer Philosophie in den Gespenstern moderner Geisterseherei*, Berlin, Weidmann, pp. xlviii., 223.

R. Eucken, *Die Philosophie des Thomas von Aquino u. die Kultur der Neuzeit*, Halle a. S., C. E. M. Pfeffer (R. Stricker), pp. 54.

A. Steudel, *Ueber Materie u. Geist*, Stuttgart, A. Bonz, pp. 58.

A. Freiherr von Berger, *Raumanschauung u. Formale Logik*, Wien, C. Konegen, pp. 48.

J. Bergmann, *Vorlesungen über Metaphysik mit besonderer Beziehung auf Kant*, Berlin, Mittler, pp. viii., 490.

J. Kreibig, *Epikur*, Wien, Halm u. Goldmann, pp. 50.

P. S. de Laplace, *Philosophischer Versuch über die Wahrscheinlichkeiten* (Uebersetz.), Leipzig, Duncker u. Humblot, pp. x., 198.

NOTICE of most of these will follow.

IX.—NOTES AND CORRESPONDENCE.

A SUPPOSED LAW OF MEMORY.

Mr. J. Jacobs, in his careful and benevolent account of my little book, *Ueber das Gedächtnis* (MIND, Vol. x. 454), tries to deduce from some of my results a very simple numerical relation. I had investigated the dependence existing between different quantities of nonsense-syllables and the number of repetitions required to learn them by heart. Though the resulting numbers proved remarkably uniform in two sets of experiments, I was not able to unite them by a simple mathematical formula. Mr. Jacobs thinks he has found out the following one: The number of repetitions required to learn a given set of syllables by heart is (in my case) treble the excess of syllables over the threshold (*i.e.*, over the number of syllables learnt without repetition). The latter number being, for instance, 6, a row of 12 syllables would be reproduced after $3\,(12-6)=18$ repetitions, a row of 20 syllables after $3\,(20-6)=42$ repetitions. Perhaps this relation, though seemingly confirmed to some extent by my experimental results, will appear rather too simple to be very credible. The conditions of my experiments were simple enough in comparison with the intricacy of reproduction in ordinary life, but they were still very complicated in comparison with elementary psychological relations; my numerical results therefore can hardly be expected to be expressible by *very* simple formulas. On this account I refrained when I first read Mr. Jacobs's hypothesis from commenting upon it. But since Mr. Jacobs, following up his idea, makes it the starting-point of some further remarks in a paper read before the British Association and published in MIND 41, I must say a word about it, in order to avert further confusion. The supposed law is based upon a very unfortunate and very regrettable misprint in my book. The Table upon which Mr. Jacobs founds his suggestion, and which he correctly reprints from page 64 of my book, contains the number 26 instead of 36. By introducing the latter into the above formula, the calculated result becomes too different from the observed one to leave any possibility for the supposed relation. In the first place, of course, I myself am responsible for thus leading my critic astray, and I sincerely regret what waste of time and thought has been caused by the incorrect figure (by the way, the only one I have hitherto detected in the numerous Tables of my book). But it will only be fair to acknowledge that the fault rests not with me alone, and that the error of Mr. Jacobs was not necessarily determined by the slight neglect I committed. On page 63, immediately preceding the one in question, the right number 36 is mentioned twice, and on page 65, immediately following the mischievous Table, there is first a diagram and secondly a paraphrase of the results obtained, which both contain again, explicitly and implicitly, the correct number 36.

Berlin. H. EBBINGHAUS.

'FALSEHOOD' AND 'IGNORANCE' IN PLATO.

I am surprised that neither Dr. Martineau nor Prof. Sidgwick (in MIND 41) has appealed to the well-known passage *Republic* 382, which is obviously referred to in *Rep.* 535, one of the places under discussion. I do not see how the former passage can leave any doubt at all as to what the conviction is which these two places are intended to express, *viz.*, that ignorance, *ἡ ἐν*

τῇ ψυχῇ ἄγνοια ἡ τοῦ ἐψευσμένου, is the essential and primary falsehood, τό γε ὡς ἀληθῶς ψεῦδος, of which spoken falsehood, τό ἐν τοῖς λόγοις (whether poetical fiction or intentional lying), is a mere secondary image. The lie in the soul is thus unquestionably treated as a greater evil than the intentional spoken lie. The former is regarded as the essence, the latter as the accident, and the latter as capable of existing without the former, for it is οὐ πάνυ ἄκρατον ψεῦδος.

Further, the lie in the soul is always involuntary : τῷ κυριωτάτῳ ἑαυτῶν ψεύδεσθαι—οὐδεὶς ἑκὼν ἔθελει. The antithesis is not completed in *Rep.* 382 by pronouncing τό ἐν τοῖς λόγοις ψεῦδος to be voluntary, although this is strongly implied in respect at least of the exceptional cases in which it may be μὴ ἄξιον μίσους. But no one who compares the two passages can doubt that it is the ἑκουσίον ψεῦδος of 535. And its voluntary character is certainly not restricted to the cases in which it is allowable ; for in them it is not hateful, while it is characterised as ἑκουσίον ψεῦδος in the very sentence which emphatically pronounces it abominable. It is therefore unquestionably regarded in these two passages as voluntary pravity, and yet as secondary to and less terrible than ignorance, the state in which the mind itself is helplessly given over to the falsehood. Plato is appealing, in the first instance, to the plain fact that the very man who does not mind telling a lie will acutely resent having a lie told to him, *i.e.*, regards being deceived as an evil. Plato's expressions, however, in these two passages do certainly to my mind seem perverse, in so far as for the moment he neglects the bad will of the intentional lie and treats it as essentially a spoken mistake. But it is plain that the fundamental idea which Plato is illustrating is much more profound than this : it is that the cause is worse or more real as an evil than the effect ; that the degradation and perversion of the whole mind, for which ignorance in his wider use of language is a term, is a more terrible thing than its emanation in a bad act, which, as accepted by that perverted mind, is *in one sense* voluntary.

I do not think that Plato's general tendency to deny the existence of voluntary pravity substantially traverses the above result. Such a denial may aim at suppressing a fact or at modifying an explanation. Plato's doctrine in the *Republic* aims only at the latter ; whereas I should imagine that the views of the historical Socrates had rather the former bias. In the *Republic*, the existence of voluntary wickedness, wickedness arising from no intellectual miscalculation, but from the appetite and lust of the individual, is enforced with all the powers of language. In the description of the slave of lust (the 'tyrannical' man), it is impossible not to recognise pravity which in any ordinary sense of language must be considered voluntary. And though Plato loves to recur to the idea of mere intellectual deception, as in the argument that the pleasures of sin are not genuine, it is obvious that all through this part of the *Republic* he tends to transform the idea of 'involuntary' into the idea of 'voluntary, but not in the true sense,' *i.e.*, not emanating from a complete and harmonious self. Thus the doctrine that vice is ignorance and so involuntary tends to pass into the doctrine that vice emanates from an irrational element, and so from a spurious will. 'Involuntary' passes into 'not free' and merely denies any explanation of vice which involves its issuing from the true or rational self. With a doctrine undergoing this amplification, it is not surprising that Plato should yield to common usage so far as to call a form of vice ἑκούσιον, *i.e.*, willed but not freely willed. The key to all this part of the *Republic* is surely in the words (*Rep.* 577), καὶ ἡ τυραννουμένη ἄρα ψυχὴ ἥκιστα ποιήσει ἃ ἂν βουληθῇ, ὡς περὶ ὅλης εἰπεῖν ψυχῆς, the mind which is the slave of lust (τυραννουμένη) is, as he has just said, δούλη, not ἐλευθέρα. The qualification ὡς περὶ ὅλης κ. τ. λ., shows in the plainest way that Plato

is not just now prepared to deny that the wicked mind *in a certain sense* does what it pleases.

I am therefore, on the other hand, most heartily with Prof. Sidgwick in thinking that the choice of lives in the myth of Er gives no true indication of Plato's ideas of moral freedom, and in general I subscribe to his view that the myths should not be drawn into evidence on philosophical questions. It is also true, as he says, that even according to the myth the choice does not escape from necessity, being predetermined by previous conduct. The contrast between the account of this choice in the myth, and the passage concerning freedom and slavery, *Republic* 577, has always seemed to me a leading instance of the gulf between the semi-sensuous imagination and the philosophic intelligence. In Plato's true ethics the opposite to freedom is δούλεια not ἀνάγκη.

BERNARD BOSANQUET.

THE ARISTOTELIAN SOCIETY FOR THE SYSTEMATIC STUDY OF PHILOSOPHY.—At the meeting of December 14, the President brought before the Society Professor Siebeck's *De doctrina Idearum qualis est in Platonis Philebo*, bringing it into connexion with the questions which arose, at the previous meeting, out of Mr. Ritchie's paper on the *Phædo*. At the first meeting in the new year, Jan. 11, the examination of Kant's *Critick of Practical Reason* was resumed by Mr. H. W. Carr (V.P.), in a paper on the "Analytic," cc. 1, 2. On Jan. 25, a paper by Mr. S. Alexander on *Hegel's Conception of Nature* was read, and gave rise to a lively and prolonged discussion, in which Prof. Bain and Mr. G. J. Romanes took part. Feb. 8, Mr. E. P. Scryngour (V.P.) read a paper on *Cause and Personality*, which also gave rise to an animated discussion. Feb. 22, the President brought before the notice of the meeting some of the more important passages in Book i. of T. H. Green's *Prolegomena to Ethics*, together with some *marginalia* of his own. The passages were first read, with the comments, and were then discussed severally, and compared with each other, and with the theory of which they formed part.

An "American Society for Psychical Research" has been founded at Boston, on the same general lines as the English one, and has issued the first Number of its *Proceedings* (July, 1885). Prof. S. Newcomb of Washington is President, and Prof. G. Stanley Hall a Vice-president.

The sittings of the Paris Society of Physiological Psychology (whose transactions now fill so large a part of the *Revue Philosophique*) are henceforth open to the public. They are held on the last Monday of each month, at 8·30 P.M., in the rooms of the Society, 3 Rue de l'Abbaye.

Ph. Mainländer's *Philosophie der Erlösung*, originally published in 1876 (2nd ed. 1879), has just been completed by the issue of the last (5th) part of a second volume of *Zwölf philosophische Essays* that has gone on appearing in parts since 1882 (Frankfurt a. M. : C. Koenitzer). A short *Lebensskizze* of the author, from the hand of his sister, will follow after some months. Mainländer, the most thoroughgoing of all pessimists, died young, before his first volume saw the light. Some account of his work will be given later on. Prof. Wundt gave a general indication of the character of his doctrine in MIND as far back as 1877 (Vol. ii. 510).

The Italian philosophical journal, *Filosofia delle Scuole Italiane*, founded sixteen years ago by the deceased Count Mamiani, is now, under his successor in the editorship, Prof. L. Ferri, transformed into *Rivista Italiana*

di Filosofia, and appears in a highly improved material guise. Being no longer the only philosophical journal in Italy, it will, without abandoning its traditional character, aim more expressly "at moving with independence upon the ground of free inquiry and of criticism of knowledge". At the same time, the *Rivista di Filosofia Scientifica*, now in its fifth year, is changed from a bi-monthly of 128 pp. into a monthly of 64 pp.; the director, Prof. E. Morselli, having now Sig. E. Tanzi associated with him as acting editor.

Different French publishers are contending with each other in the issue of students' texts of the philosophical works now prescribed, by decree of January 1885, for use in *lycées*. Among those which have thus far appeared, special mention may be made of M. F. Picavet's edition of Part i. of Condillac's *Traité des Sensations* (Ch. Delagrave). M. Picavet has given, to the length of pp. cxxxii., an account and appreciation of Condillac's life and works which is very noteworthy, and also promises the results of a more extended research on the history of French Sensationalism. It is interesting to observe that the prescription of Condillac is due to M. Paul Janet, though why it should stop short at Part. i., which is limited to "the senses which, of themselves, do not judge of external objects," is not explained.

Prof. Ernst Laas of Strassburg, author of *Kant's Analogien der Erfahrung* (MIND, Vol. ii. 133) and other works, has just died, at the age of 48.

Prof. J. G. Schurman of Dalhousie College, Halifax, N.S., has been appointed to a newly founded and well-endowed chair of Ethics and Philosophy in Cornell University, N.Y.

THE JOURNAL OF SPECULATIVE PHILOSOPHY.—Vol. xix., No. 3. G. W. Cooke—*The Dial*. Hegel—Introduction to the Philosophy of Religion (tr.). Leibniz—Critique of Locke (beginning of a translation of the *Nouveaux Essais*). Goeschel—On the Immortality of the Soul (tr.). Notes and Discussions, &c.

REVUE PHILOSOPHIQUE.—An. xi., No. 1. J. Tarde—Problèmes de criminalité (i.). F. Paulhan—Le langage intérieur et la pensée. K. Dieterich—David Strauss et l'idéalisme allemand. Notes et Discussions (Bourru et Burot—Sur les variations de la personnalité. Lechalas et Egger—Sur quelques illusions visuelles). Analyses et Comptes-rendus (D. G. Thompson, *A System of Psychology*, E. E. Saltus, *The Philosophy of Disenchantment*, &c.). Rev. des Period. No. 2. A. Binet—La perception de l'étendue par l'œil: Recherches expérimentales. G. Tarde—Problèmes de criminalité (fin). L. Carrau—La philosophie de Butler: i. La morale. Notes &c. (A. Binet et Ch. Féré—Expériences sur les images associées. G. Hoctès—A propos de graphologie). Analyses, &c. Société de Psychologie physiologique (Pierre Janet—Sur quelques phénomènes de somnambulisme. J. Héricourt—Un cas de somnambulisme à distance. Ch. Richet—Un fait de somnambulisme à distance. H. Beaunis—Un fait de suggestion mentale. L. Marillier—Études de quelques cas d'observation observés sur moi-même. F. Myers—De certaines formes d'hallucinations. Ch. Richet—A propos des images mentales). No. 3. L. Dauriac—L'acoustique psychologique. Ch. Féré—Sensation et mouvement: Contribution à la psychologie du fœtus (avec fig.). L. Carrau—La philosophie de Butler: ii. *L'Analogie*. Analyses, &c. Soc. de Psychol. physiol. (R. Garofalo—Contributions à l'étude du type criminel: recherches expérimentales. Bourru et Burot—Les premières expériences sur l'action des médicaments à distance. Ch. Richet—L'action des substances toxiques à distance; De quelques phénomènes de suggestion sans hypnotisme).

La Critique Philosophique (Nouv. Sér.).—An. i., No. 12. . . . C. Renouvier—La morale criticiste et la critique de M. A. Fouillée (iv.). . . . De la morale exclusivement religieuse, à propos d'un livre de philosophie chrétienne de l'histoire (C. Malan, *Les grands traits de l'histoire religieuse de l'humanité*). Notices bibliog. An. ii., No. 1. . . . C. Renouvier—La morale criticiste, &c. (fin). . . . F. Pillon—L'anatomie et la physiologie d'Aristote (i.). Notices bibliog. No. 2. H. Monin—La notion abstraite de force divine dans *l'Iliade*. C. Renouvier—Examen des *Premiers Principes* de H. Spencer (suite). L. Dauriac—Un livre récent sur le stoicisme (par F. Ogereau). F. Pillon—L'anatomie, &c. (suite). Correspondance (C. Malan—C. Renouvier).

Rivista Italiana di Filosofia.—Vol. i., Disp. 1. La Direzione—Prefazione. L. Ferri—Sulla vita e le opere di Terenzio Mamiani. R. Benzoni—La filosofia dell' Academia Romana di S. Tommaso. R. Bobba—Sopra un lavoro del prof. Ferri intorno all' idea di sostanza. F. Bonatelli—Trucioli di filosofia. P. d'Ercole—L'educazione del bambino secondo Pestalozzi, Fröbel e Spencer. Bibliografie. Notizie, &c.

Rivista di Filosofia Scientifica.—Vol. iv., No. 5. B. Labanca—Ambiente fisico del Cristianesimo primitivo. G. Bonelli—Individuo e gruppo in biologia. R. Acanfora-Venturelli—Studii di psicofisica: Il processo nervoso in rapporto al concetto della sensibilità. G. Canestrini—Sopra un istinto singolare di un vagno nostrano. Riv. sintetica (U. Rabbeno—L'evoluzione religiosa odierna). Riv. analitica. Riv. bib., &c. No. 6. P. Mario—La vita dei cristalli. E. Dal Pozzo di Mombello—L'universo invisibile: Indimostrabilità fisica d'uno stato futuro. I. Vanni—I giuristi della scuola storica di Germania nella storia della sociologia e della filosofia positiva. Riv. anal. Riv. bib., &c. Vol. v. (Serie 2), No. 1. G. Cesca—La dottrina psicologica sulla natura della coscienza: i. Storia delle teorie psicologiche sulla natura della coscienza. G. Cantoni—Di un probabile riordinamento degli studi superiori in Italia. Riv. sint. (G. Bonelli—Il problema della morale nella filosofia scientifica.) Riv. bib., &c.

Zeitschrift für Philosophie, &c.—Bd. lxxxviii., Heft 1. Koppelmann—Lotze's Stellung zu Kant's Kriticismus. J. Döderlein—Was fehlt dem ontologischen Beweis? E. Nemes—Dr. Cyrill Horváth u. sein philosophisches System. G. Glogau—Steinthal's Ethik. Recensionen. Notiz.

Philosophische Monatshefte.—Bd. xxii., Heft 4, 5. M. Jünger—Ueber das Beweisen u. seine Grenzen. Recensionen u. Anzeigen (J. Sully, *Die Illusionen* (tr.); Th. Merz, *Leibniz* (tr.). Litteraturbericht. Bibliographie, &c.

Zeitschrift für Völkerpsychologie u. Sprachwissenschaft.—Bd. xvi., Heft 3. V. Kaiser—Der Platonismus Michelangelos: iii. M's. Mediceer. W. Schuppe—Subjectlose Sätze. H. Baynes—Who are the Chinese? K. Bruchmann—Eine neue Auflage der Zufallstheorie. Beurteilungen. Heft 4. J. Golziher—Ueber Geberden u. Zeichensprache bei den Arabern. L. Kovár—Ueber die Bedeutung des possessivischen Pronomen für die Ausdrucksweise des substantivischen Attributes. A. Klein—Ueber Bedeutung der Etymologie für die Jurisprudenz. Beurteilungen.

Vierteljahrsschrift für wissenschaftliche Philosophie.—Bd. x., Heft 1. H. Holtzmann—Worte am Grabe von Dr. Ernst Laas. A. Meinong—Zur erkenntnisstheoretischen Würdigung des Gedächtnisses. C. Hauptmann—Zur Klärung des elementaren Multiplicationsproblems. Schmitz-Dumont—Theorie der Begriffebildung (i.). A. Marty—Ueber Sprachreflex, Nativismus u. absichtliche Sprachbildung (ii.). Anzeigen. Selbstanzeigen, &c.

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OF

PSYCHOLOGY AND PHILOSOPHY.

I.—IS THERE ANY SPECIAL ACTIVITY OF ATTENTION?

By F. H. Bradley.

The question I have placed at the head of this article may serve to define its subject-matter. Is Attention, so far as it is *psychical* activity, an original element, and is there any specific function of attention? The strict result of the English analytical school would give a negative answer to both these questions. With that denial I agree, and I have not been able to find sufficient reason to doubt its truth. Active attention is not primary, either as being there from the first or as supervening, but is a derivative product. Nor again, I should add, is there any one special activity at all, but various activities, if they lead to one result, are called attending. This is the doctrine which the paper is written to defend, or rather to press upon the reader's notice. The whole subject is so difficult and is so implicated with other branches of psychology, that to treat of it fully is not possible here, even if in my case it were possible anywhere. My chief object is to record a kind of protest. I observe a tendency to break up the life of the soul, to divide it into active and passive factors, or to suppose a passive beginning with a supervening activity, the latter by

some identified with an irreducible act of attention. I believe this tendency to be a serious obstacle to psychology, and there is another tendency not less injurious. Attention may be given such a position that the reader cannot tell if it is primary or derivative, or, if primary, whether it is an original element or something that supervenes; or, again, whether it is one of a class of activities, or itself a class of different activities, or one function exerted on different objects. And my purpose is first to ask why we should desert the conclusion that attention is a product; and, if we must desert it, to urge that the alternative should at least be stated distinctly. The attention I am to speak of is *active* attention.

Attention (whatever it may be besides) at any rate means predominance in consciousness. Some element or elements, sensational or ideal, become prominent from the rest and seem to lower them in strength, if they do not entirely exclude them from notice. That which we attend to is said to engross us. "The expression means that a sensation tends more or less strongly to exclude from consciousness all other sensations."[1] Not theorising but applying descriptive metaphors, we may call attention a state which implies domination or chief tenancy of consciousness. Or we may compare it to the focusing of an optical instrument, or to the area of distinct vision in the retinal field.[2] Now in active attention we produce this condition (there is no doubt of that), and the question is how we are able to do this, or what is the machinery which effects the production. In order to answer this question, we must first make a general survey of the facts.

A flash of lightning by night, the report of a firearm, the sudden prick of a knife, or a violent internal pain, all these for the moment so occupy our notice that everything else becomes feeble or is banished. I shall not ask *how* it is that these intruders prevail, whether there is one cause or various ones, and, if so, how they are related.[3] Nor shall I enquire

[1] Abbreviated from J S. Mill on James Mill's *Analysis of the Human Mind*, ii. 372.

[2] Hamilton, *Met.* i. 238, Lotze, *Med. Psych.* 505, and (later) Wundt, *Phys. Psych.* ii. 206. I may take this opportunity of saying that I have considered Wundt's doctrine of Apperception and am unable to adopt it, perhaps because I have failed to understand it.

[3] There is mere strength, pleasure and pain, and habit, including under that head inherited predispositions as well as the attractions of familiarity and change. How these stand to one another is matter of controversy which does not concern us. Stumpf, *Tonpsych.* i. 71, is inclined to doubt

if we here can be said to attend or are active in any sense. I think no one would say that we ourselves *produced* the tyranny of these assailants. Let us then go on to the states where we are certainly somehow active. When the ears are erected or the eyes opened or moved, and these reflex acts increase the power of one sensation against other mental elements, I do not know if we properly are said to attend. And, though there is a kind of "activity," yet assuredly there is here no active attention. For no psychical activity at all is present, or in any case none which produces the dominance of one mental element. Still, if the reader objects, I will not at present insist. He will agree that these reflexes are but one amongst other sorts of attention, and I will therefore pass on.

We come next to a class where the activity is still muscular, a muscular activity exerted upon a percipient organ directly, or indirectly as by turning the body. But in addition we have here a preceding idea and (according to one view) a feeling which moves. A visible object for example suggests, indirectly or directly, ideas and feelings which lead to our fixing it, and that fixation makes the perception of the object predominant and steady. There are many stages in this class, and we shall all agree that in some of them we have an active attention. There is a question in fact whether attention is much *more*, and to that question we shall be obliged to return.

We come next to a number of cases of attention where muscular activity seems not essential. But in all of these an *idea* must be present and appears to operate. A simple

the fact of attention's always strengthening, partly on the ground that in that case it would falsify observation. But, in the first place, since strength of course is relative, the observed relation might for more than one reason remain unaltered. And, in the second place, there is a most important point to be considered, to which it seems to me that Stumpf has hardly done justice. This is the distinction between the strength of a perception as a psychical state and the strength which is perceived by means of the perception. If we consider ideas, it seems hopeless to contend that the idea (*e.g.*) of a strong or weak pleasure or pain must always itself *be* a strong or weak state of mind. Such an example as the tranquil recollection of a tooth-drawing would at once confute us. And if this is so with ideas, it will, I think, be so still when we come to perceptions. The difference between the state and its ideal content will hold good there also. It will be possible to have a perception of violence which itself is not violent, and of feebleness which itself is not weak. The degree will be a character distinguishable from and contained in the whole state of perception, which latter may in some other way vary in strength while the degree remains the same. But how this can be possible is a most difficult question with which I do not feel myself at present competent to deal.

instance is the appearance in sensation or perception of an element not striking in itself but with which a dominant idea is associated. If an idea or a mass of ideas are so interesting that they are able to engross us, then the elements connected with them, whether sensible or ideal, may engross us also (cp. J. S. Mill, *loc. cit.*). Whether perceptions and ideas that attract us by their strangeness belong to this class I shall not enquire, nor for the present shall I ask what "interesting" means. What must engage us is the doubt if in this class we have everywhere *active* attention. When a thought, as we say, is much in our minds, and we dwell upon everything that suits with its presence and supports its rule, we do not know of any *act*, since all comes of itself. 'If I am active,' we should ask, 'what is it that I do?' and it is better therefore to go on to clearer instances. When I retain an idea or keep watch on an object, and still more when I investigate, I am supposed to act and also to attend, since my thoughts are confined to one main subject. But is this active attention? When for example at this moment I write about attention, I am active no doubt and I presume attending; but if you ask me whether I actively attend, I hesitate for an answer. For, if I am well and not distracted, attention seems of itself to wait upon my other activity, and, if it does not come because of it, seems to come spontaneously. It is otherwise where I have resolved to attend to some matter and still persevere. We have here the attention that proclaims itself active, and there is more than one variety. I may simply intend to occupy my mind with a certain subject, or may resolve in particular to be active upon it in such or such a manner.

Let us enumerate the results of the above survey. In the first place (1) we may have resolved to attend, or (2) to effect some mental operation which involves attention. We may also (3) perform the same act without intention or resolve, and again, where we are not conscious of action, (4) a dominant idea may lend its force to a connected element. Once more, (5) a muscular act, itself the result of idea (and perhaps feeling), may cause the predominance of sensation or idea; or (6) a sensation may be fixed by a simple reflex; or (7) lastly some element may predominate by what seems its own superior energy. The two last varieties, I think, must now be dismissed. They have of course great psychological importance, but it seems evident that they are not *active* attention.

I shall go on to attempt a clearance of the ground by dealing with the claim of muscular action; for if this contained the essence of active attention, our task would be

shortened. The "Will," it may be said, controls the voluntary muscles (and them alone), and the voluntary muscles by acting on the organs control sensation. And when we attend to an idea, and when the muscles do *not* move, yet the Will still controls. For in the idea attended to is "a muscular element," and this "mental, or revived, image occupies the same place in the brain and other parts of the system as the original sensation did" (Bain, *Emotions*, 370). Hence the Will is enabled to direct itself to the idea, and so to control it; and in this way the activity of attention is explained.

But this view will not bear an impartial scrutiny. I say nothing about the physiological hypothesis on which it seems to hang, and I will not ask whether, if the facts were as alleged, the explanation would be sufficient; for the facts are largely otherwise.[1] I attend to various visceral sensations, I attend to a single instrument in an orchestra, I attend to the several components of a smell, I attend to colour and not shape, and I attend in one colour, such as greenish-blue, to the blue or to the green; but it is needless to go on. There is according to the theory "a muscular intervention" in all these cases. And this cannot mean merely that in all there exists *some* "muscular element," for this (if true) would be perfectly *irrelevant*. The fact to be explained is my attending to A or B and not to C or D, and unless there are special "muscular elements" *a*, *b*, *c*, and *d*, the fact is not explained. But, if such elements are everywhere postulated, then I think I may say that, when the physiologists and the anatomists have been converted, it will be time enough for the psychologist to enquire. On the other hand, if, as I presume, Prof. Bain makes no such postulate, then I am unable to see how the theory can touch the fact to be explained.

Active attention does not consist merely in muscular innervation, and, if so, we must go on to look elsewhere. But I should like to say first that it seems to me most doubtful if attention *must* have even a muscular concomitant. I do not deny that early in development this is so, and I do not deny that, if attention reaches a certain degree of strength, there is some muscular accompaniment, such as frowning. But in my actual experience, when I pass from inattention to a direction of my thoughts, I cannot verify the *universal* presence of a muscular element; and I know no good *a priori* proof of that presence. I should add that to me this question

[1] Cp. Lotze, *Med. Psych.* 509.

seems to be merely one of fact, and to have no other psychological importance.[1]

We have now surveyed, and to some extent have cleared, our ground, and the best course will, I think, be rapidly to go through the rest of our cases, and to ask in each if we require a specific activity of attention. After this and in conclusion we will deal with some particular difficulties.

Let us first take the case where a sensation engrosses us, though not directly, and where yet we are not conscious of any activity. What operates here will be a connected idea; for the idea engrosses, and what goes with it will therefore engross us also. We, I presume, are all agreed that ideas and that groups of ideas may interest. In what interest consists is a difficult question. It is I think quite certain that it consists to a large extent in pleasure and pain, but that it always consists in nothing else, or that pleasure or pain *must* always be present, seem both to me improbable. But for the purpose of this article I shall assume that what interests does so by means of pleasure or pain. Then, if an idea is pleasing, that idea may engross us, and if an indifferent sensation suggests the idea, the idea on its side will affect the sensation and cause it to dominate (cp. J. S. Mill, *loc. cit.* 372). How it does so is again a question that opens a somewhat wide field. We must content ourselves with the answer that it works by redintegration and also by blending. It is blending when, if two mental elements have got the same content, the intensities of both are more or less combined with a total or partial fusion of the elements. I should say that this process cannot wholly be reduced to redintegration, and whether its existence is compatible with the strict principles of the English school of "association," I do not know. It of course presents some difficulties in general, and raises a number of interesting problems. But, without dwelling on these questions, we may lay down the result that, if an idea engrosses, then any sensation which is connected with that idea may in consequence engross. And attention so far has appeared to consist in interest, either direct or transferred; an account which, we shall find, will hold good everywhere (cp. Waitz, *Lehrbuch*, 634-7).

Let us pass on to the cases where we feel an activity. In

[1] Some psychologists appear to be so taken by the idea of our voluntary muscles that they seem at times to forget the existence of such things as glands and skin and mucous membranes. I would refer the reader specially to those chapters in Dr. Tuke's *Influence of the Mind upon the Body* which deal with the action of the intellect upon the involuntary muscles and the organic functions, or see Carpenter's *Mental Physiology*.

the first class of these we make no resolve, but, performing an operation, we are occupied with our performance. We are writing or reading, and the subject engrosses us. We, I presume, attend, and we certainly seem active, and the question is, What is such active attention, and does it simply once more consist in interest? I have no doubt that it does. The subject may predominate because of the activity, but the activity itself is produced by interest. Why am I active? Because the function of itself is interesting, or because the idea of the result is dominant. The main idea of the subject favours those activities which further its existence, and it lends them its strength. It naturally selects them. Or the idea of an answer to a question which interests creates uneasiness and a coming up and maintenance of any function which serves to relieve. The attention is caused by an indirect interest, for that produces the activity whose subject predominates.

There are some objections which, perhaps, before we go on, should be considered here. It may be said first (*a*) that no intellectual activity exists, and secondly (*b*) that the dominant idea could not work. The objections have perhaps not been made in this form, but it will serve to bring out the points of difficulty.

(*a*) If no intellectual activity exists, and if yet there is *some* activity present in intellectual functions, this activity, it would seem, might be attention. It is not possible for me here to discuss the question of intellectual activities, their existence and their origin, and I prefer to reply, If no activity of intellect then none whatever; for psychology deals simply with psychical processes. I shall return lower down to this general question, but here will assume that the intellect is active.[1] And if so, its activity upon a certain object will (as was said before) result from interest. The objection however may be pressed as follows. Let that be the case, it may be said, where the intellect does something; but what where it does nothing and where yet I am active? In the *retention* of an image or in the *watching* of an object I am certainly active; but where is the intellectual product? The product appears to be mere attention, and if so, the activity must be attention also. I must meet this objection by attempting to show the nature of retention and of observation. The feeling of activity I will deal with hereafter.

What is active *retention?* The image of a person will not

[1] I should say that I decidedly reject the doctrine that active attention consists in comparison. See Lotze, *Metaph.* 540, *Grundzüge d. Psych.* 26.

stay before our minds, or in reflection we fail to keep hold of an idea or maintain a process. We make an effort and succeed, but where is the machinery? The machinery, I answer, consists of an idea which is able to dominate and so fixes an object connected with itself. This idea may be simply the idea of the presence of the idea required. Again it may be some other idea which implies the first and makes a whole with it, a process familiar under the name of Contiguity. This idea will retain partly by means of Redintegration. It has a context which perpetually suggests the idea to be retained as often as that wavers; and this context again is more or less extensive, and therefore self-supporting or self-restoring. And secondly, the idea (as was mentioned before) will strengthen by blending, and so tend to retain. These I think are the means employed for retention, and if so, there is no specific activity. Let us pass to *observation*. When we watch, say a trap, or perhaps a rabbit-hole, or the proceedings in a law-court, what is it that we do? The last example suggests an instructive distinction. When we observe we must do it in a certain interest; but we may either want to see what happens in this or that special way, or generally to see whatever may happen. And the explanation seems simple. The idea of the object changing itself in such or such a manner is an interesting idea, and so naturally causes retention of this object in prominent perception. And where we are said to watch simply the idea is the same, only now indefinite. If I am told to keep my eye upon anything, the idea of my seeing some change is suggested, and my observation is a case of motived retention.[1] We may say then that either there is no activity or that the activities (mental or physical) are *not* a specific attending. Attention will be everywhere a mere example of the common processes of mind, and will consist in the influence of a dominant idea.

(*b*) Or if it is said that this dominant idea could not influence, the answer is easy. It must be admitted that, by what has been called "Contiguity," the idea of the end both prompts and selects the means which produce it. And the dominance of that idea is surely indisputable. It may not contract the muscles, and may fail even to produce "a nascent stage of the process of innervation" or "a tendency

[1] We should avoid the mistake of treating these phenomena as cases of Comparison. They *may* involve Comparison, but cannot do so from the first, since they certainly precede it. At an early stage there are not two things held before the mind, and so Comparison is impossible. They belong to the same class as elementary Recognition, where we find a sameness or difference without knowing what that is.

to strive" (whatever that may mean), and if the reader is committed to such ideas, I cannot hope to persuade him. But I would ask others to reflect that we have been willing to suppose that the idea prevails through pleasure and pain, and (if you must say so) through desire. All that is wanted so far for a common understanding is the presence of the idea and the denial that its influence consists in a discharge upon the muscles, whether actual or potential.

"Still," the objection may come, "in an act like retention we fix ideas that waver, and we even recall an idea that has vanished. And we are said to do this by 'the idea of the idea'. But an idea must either be there or not there, and cannot be both, unless somehow 'potential'. So that an idea of an idea is not admissible." I confess that the phrase has a certain obscurity, and I do not know whether any one has worked out the detail of its various meanings. But it is not hard to make a sufficient reply.[1] It is plain that we have the idea of an idea. We may be asked (*e.g.*) for our idea of a statesman, and may be answered, 'I do not call that an idea'. 'Tell me then,' we might reply, 'what is *your* idea of an idea of a statesman.' And that means, Give me the general character which such an idea should have. This account will hold good everywhere. The idea of an idea is a psychical state, the character of which is used representatively and contains the feature of being an idea of a certain kind. We may distinguish two varieties. In the first of these the absent idea which I think of is the idea pure and simple, while in the second it will include my psychical state as I have this idea. For example, I possess a general idea of the solution of a problem, and that in the first case contains merely the general character of the answer required, or the principal feature of the necessary process. But if (as in the second case) I think of myself as having the solution or as performing the process, I must represent also the psychical presence of the whole event, of course again only in its general aspect. Thus, if we realised the first idea we should have simply to fill out its logical content, but the reality of the second would give us its actual psychical existence. And with this passing notice I must leave an objection which depends upon a vicious theory that would destroy logic wholly and cripple psychology.[2]

[1] I think that Prof. Bain has given to a kindred question an answer that is somewhat confused, in a note on James Mill's *Analysis*, ii. 358.

[2] The unsatisfactory way in which internal volition is dealt with (or ignored by) the mass of psychologists comes in part from an inability to distinguish clearly between the idea of and the reality of an idea.

To resume then, ideas of ideas are possible, and such ideas can dominate, and the presence of these ideas can produce their own reality. And so far attention has been fully explained as an instance of the working of ordinary laws. But we have still another class of our facts to consider. The cases of attention which so far we have surveyed are in a sense involuntary. In them we had not a resolve to attend. We must now deal with the class where I say, 'I will attend to this matter,' and do so, or where at all events I resolve to perform such an act as implies attention. At this point, it may be said, our explanation breaks down, and here we have a specific and original activity. All before was automatic, but this is volitional and gives us a direct revelation of energy.

But an energy that does what? is the natural reply. I suppose an energy that fixes and strengthens. Well, if so, I am led to remark at once that the presumption is in favour of our old account, because fixation and strengthening was what it explained. If, when I simply attend, that function results from an indirect interest, is it likely that when I resolve to attend we should have to import a wholly new factor and bring upon the stage a supervening agency? Let us examine this more nearly.

When I readily attend to the details of a subject and perform the operations (both physical and mental) that lead to a view of them, or when in general I pursue the means to some end, that, we saw, did not involve any other attention than was explained by the normal working of interest. We must now take the case where, prompted to such application, I am solicited elsewhere, and return to my task after wavering and struggle, perhaps in addition saying to myself, 'I am resolved to mind my business'. And there is a suggestion, it would seem, that in these cases we are met by a difference of principle. But, we ask, where is this difference? In the struggle of ideas and feelings in my mind, and in the inconstant result, there is nothing surely which calls for special explanation, nor most assuredly is there a consciousness of special activity. And if it is the act of resolve upon which stress is laid, then I fully admit that this function must be recognised as differing from others, but I see no reason to think it one kind by itself or as anything but an instance of our general principles. We have seen that what interests occupies our minds, and that it does so directly or indirectly. We have seen that in the latter class we have the working of an idea, and in some cases also the help of an action, physical or intellectual—such action not being an activity of

attention in any specific sense. We saw in short that attention, whether we understand it as the state of our being engrossed, or as an action which brings about such a state, was nothing unique, nothing else but a result and an illustration of more general laws. Thus, if we take interest to mean liking, attention comes from liking, my liking for the thing or for something that implies it, the idea of some person to whom I am attached, or of some pursuit or principle more or less abstract. These interests are ideas which, in the normal course of psychical events, work out their detail by a transfer of liking and support that detail against invasion. We shall see that *resolve* does but illustrate this process.

I am to say 'I will attend,' and am then in consequence really to attend; and on the other hand in our account attention consisted in indirect interest—interest, that is, in a further idea. But here where is the idea? It is not far to seek. If I resolve to attend, I of course have the idea of myself attending. That is, I have either an idea of myself doing this or that work, which work in fact produces attention, or I have an explicit idea of myself attending to something to which the work is in fact a condition. This idea of myself in such a character dominates by its pleasure, or its implication with pain, or its force, or its associations (we have agreed to leave this matter unsettled), and it produces in the common psychological way the means to its realisation. Where is then the difficulty? I have an idea of myself doing this or that, and such an idea may surely be interesting. Or, if it is not so in itself, there are further ideas of myself accomplishing a whole performance which includes it, pursuing (*e.g.*) the greatest possible sum of pleasures, or acting upon some other principle of virtue. In short, give me the idea of myself somehow engaged, and let that idea give me, indirectly or directly, a feeling of satisfaction or success or self-approval, or in some manner interest me, then, if this idea is connected with means that lead to its reality, it surely will produce them in the ordinary way. The result of attention will follow the resolve without any mysterious 'act' which intervenes, and the phenomenon is explained by indirect interest. It may be said that the idea works *because* I fix it, and that this fixation *is* attending; but the answer is of course that another idea, a still more remote interest, fixes the first one and sets up the process. And if some arbitrary force proceeding from the self is suggested against me, I can only reply that I do not know what this means. I cannot well discuss phrases which convey to me nothing I can find in fact, and which I am compelled to believe are simply unintelligible.

We have now traversed the field which we set before us, and have offered an account of its main phenomena, defective no doubt, but I trust sufficient to answer our purpose. We have found nothing in attention that is not derivative, nothing which could justify our placing it among the primary elements of mind. In attention there is either no activity at all beyond the common processes of redintegration and blending, or, if the activity exists, itself *is* not attention. Any function whatever of the body or the mind will be active attention if it is prompted by an interest and brings about the result of our engrossment with its product. There is no primary act of attention, there is no specific act of attention, there is no one kind of act of attention at all. That is our result, and through the rest of this paper I shall consider some objections and attempt to remove some remaining difficulties.

I will first make a remark on the nature of Resolve. When I determine to act, either now or in the future (and perhaps again only in case an uncertain condition is fulfilled), I am aware of a peculiar state of mind. I do not act and yet I feel myself asserted, forefelt (so to speak) in an unreal action. But this state admits of an easy explanation. Apart from its actual realisation an idea may possess very many degrees of particularity. Now when the idea of an action is opposed by other states, they prevent it from filling itself out with detail in accordance with the reality at present perceived or imagined in the future. But, as the obstacle is from any cause lessened or removed, this idea will in proportion grow more particular, and, if it cannot lead to action, will be largely filled out by ideal detail. This detail will of course contain feelings the same in character as those which would be present in the real act; but there is no need to explain this by a hypothetical physiology, or to raise a mist with vague phrases such as "tendency" and "nascent". The fact is merely that of these feelings the greater part (if not all) will be less intense than they would be in the action, and a varying amount of them will be wholly absent. Still enough will be there to give a sense of expansion, such as we feel to accompany our real actions; and this is mistaken for proof of an inner energy, not derived from common sources, but to be referred to a specific act of attention or some other faculty. I should like to work out this point in greater detail, but I have only room to suggest that any intelligent adherent of arbitrary Free-will should do it for himself.

I will pass next to a kindred source of difficulty. "In

attention," I may be told, "we feel that we are active; we are aware of energy, and we know this directly. In the account which you have given this factor is omitted, since attention comes there as a result from elements that are not active. And we object that the essence of the matter is omitted since the essence is just this revealed activity." But I should reply that, if attention is *not* derivative, the right course is to show my mistake in its derivation. If I have either accounted (or am able to account) for every single thing which your "energy" *performs*, you will hardly persuade me that the feeling you speak of is really effective, or is anything but a concomitant, more or less constant and more or less obscure. And I think that I might fairly leave the matter so. But, since the consciousness of force has been given an importance which is paramount (and I might add transcendent and absolute), it is better to add some further remarks.

I would first suggest that a revelation of activity or of force or of will or of energy (or indeed of anything which answers to a phrase of this sort) is open to dangerous metaphysical criticism. If these ideas can be shown to contradict themselves, then the revelation could be met by an admission of its existence, but also by a denial of the truth of its message; and in England at least I am sure that this criticism has (to speak in general) been merely ignored. I mention this in passing, and I lay no stress on it, since in psychology I do not think such a criticism would be relevant any more than it would be in physics or physiology. But, confining myself to the field of psychology, I utterly deny the alleged revelation. It gives us not a fact but an intellectual construction, and (I should add) a thorough misinterpretation. In the first place I should like to be told *what* it is that the message conveys. Does it tell me of my body or of my mind or of both, and what precisely does it tell me? I have supposed (perhaps wrongly) that psychology is a science which deals with psychical events and the laws of those events, and that the phrase "activity," whenever used, should be explicable in those terms. But though others no doubt may have had better fortune, my own experience is that in our leading psychologies it is difficult or impossible to know what "active" or "energy" means. And since apparently these words stand for something important, I cannot but feel that we have a right to complain. If I may say what I think, the present use of these phrases is little better than a scandal and a main obstacle in the path of English psychology. If one cannot employ them with a definite meaning,

why use them at all? For a psychology that could not get on without them would most assuredly pass its own sentence. And (to apply what I have said to the present case) if the activity which is revealed tells me something about the origin and the nature of those events which we call attention, then, until its message is translated into clearness, we cannot regard it. But if it is meant to be a feeling which gives no message at all, and the question is whether this fact is essential to the process of attention, and again whether and how far we are able to decompose it, then it seems to me that the language applied to this feeling has been strangely misleading. For suppose that a psychical event which we cannot analyse is a necessary link in the process of attending, then from this it will follow that attention so far cannot be explained. But from this there is no passage to a statement about activity, which (whatever it may be) seems certainly complex and largely to be built upon inference from experience.

But on the assertor of such a link in the process of attention lies the burden of proof. Even suppose that a feeling of activity is present, yet we have explained the fact of attention without it, and so we deny its efficacy. And in the second place we remark that a feeling of energy can hardly be asserted in *all* attention, and that it is difficult to say at what stage (if at any) it is always a concomitant. And where it is concomitant, perhaps there we go on to call the attention "active" for no reason but the presence of this delusive feeling, which (so far as we have gone) seems not active at all but an accompaniment more or less superfluous. And if it is said, "But you have not explained this feeling," I might reply that I cannot be called upon to do so. If I do not, does it follow that my account of attention is incorrect? Or, if so, would it follow that *therefore* attention reveals activity or energy or will or any other tidings of the kind? But if this could not be maintained, then perhaps, with a view to make good my case, I should do better to deny the claim of the feeling and to rest on the denial. Still, to throw light on the subject so far as I can, I will offer some remarks on the nature of this much-misused phenomenon.

First let me say that by calling a feeling 'derivative' I do not mean that it comes *simply* from the union of other psychical elements. I do not mean that an emotion *is* simply those conditions which we say produce it. The conditions, the presence of certain psychical elements, must often, if not always, produce other states before the whole is present which we call the emotion. Of course *how*, for

example, given certain ideas, certain internal sensations follow upon them is an open question; and it is an open question, when those sensations have followed, what part of this mass of sensations and ideas and feelings *is* the actual emotion. I have not to resolve these doubts, but am to point out conditions through which we get, and without which we should not get, the feeling of activity.

This last phrase recalls a shocking ambiguity. A 'feeling *of*' has at least three different senses. It means feeling simply felt, and that never as yet has been interpreted by and combined with ideas, or feeling recognised as that which is *of* something else, or feeling not now recognised but modified by the results of past recognition. In the first of these cases the 'of' does not belong to the feeling. It belongs solely to an outsider who adds ideas true or false, but in either case derived from other experience. And to predicate these ideas directly 'of' the feeling is a serious error. Now if we take activity at the stage where it is recognised and is felt as such, we can see at once its composite character. It contains the idea of myself changing something opposed, and it contains still more. If I suffered a change from which something else followed, that by itself would not be taken as activity. The change must come from me, that is, I must have an idea of it (if not also a desire), and this idea, or end, must lead to the change. Now I think no one can deny that to be conscious of all this is possible only through a liberal interpretation of much experience. But on the other hand what sense, when these constituents are removed, is left to my consciousness of energy put forth? If there is a feeling which goes now together with this complex and has gone before it, that feeling is *of* energy in much the same manner in which relief from the pains of hunger and cold is a feeling *of* swaddling clothes and *of* milk, or a metaphysical proof of their absolute reality.

But what is the feeling which becomes by experience the feeling of activity? Or for the present let us ask what are its conditions. I think its origin lies in the feeling of expansion that follows upon the enlargement of the self. I have to assume the doctrine that of our psychical contents a certain group is closely united, and is connected in a very special manner with pleasure and pain, and that this group is the first appearance of our self. I have to assume again that this psychical mass, with its connexions, is perpetually growing larger and smaller as against other elements. And I must assume once more that the expansion gives *in general*

a feeling of pleasure, while contraction brings pain, and that we may call these the two chief modes of self-feeling. I must assume all this here and pass over the difficulties which of course beset it. Now the expansion is *not* the consciousness of activity, nor is it a consciousness of the self or the body or a consciousness of anything at all. It merely is and is felt in a certain way. Not till after a considerable growth of the soul (which we cannot here deal with) does there come the perception of a self and a not-self with what is called consciousness. Then when we get to know from repeated experience that changes ensue upon modes of our self (as a body that is conscious, and later as consciousness along with a body), we acquire the notion of activity or will. We are active when the not-self, consisting in external or internal sensation or perception or idea, changes on the presence of an idea, and (I will add) a desire of that change within the self. This expansion of our area beginning from within gives a certain feeling, and it is interpreted as a putting forth of a something from out the self into the not-self—the something being energy or force or will, named in a variety of phrases all equally delusive, and in fact of course being nothing at all. Where the group of the self is contracted by the not-self and a pleasant idea of expansion is suggested, there is a feeling of pressure. When in addition the limit of resistance wavers, and the ideal expansion is realised partly, with a further advance of expansion in idea and perhaps an oscillation of actual retreat and actual advance, there is wavering and a consciousness of tension and effort.[1] In all this there is a happening—a happening of events; there is nothing beside facts coexistent and successive, with the result of other facts. And I think in this way we could give throughout psychology a definite meaning to action and passivity.

I cannot dwell on this outline, but must hasten to consider a point of interest. There is no doubt that in getting from experience (as we must) the idea of self-expansion, the muscular element is most important. But it would be wrong to say that our sense of tension and effort must always come from muscular feeling. In the resistance of an idea that will haunt or escape us, and in the tension of waiting for the issue of a crisis, the origin of the feeling is clearly not muscular. And if it is urged that at any rate the feeling has elements which must have arisen from muscular experience, that, if true, would not be relevant. It would

[1] Cp. Waitz, 301 ff.; Nahlowsky, *Gefühlsleben*, 86 ff.

not show that these elements originate the feeling, and it ignores the distinction between a total emotion and its producing conditions which we mentioned above. I have not said that from self-expansion, however strong the ideas and sensations concerned, and however intense the pleasure and pain, would come the entire emotion of activity, strain, effort and success. Not only do the kinds of the elements involved make important differences, but there is a fresh result of internal sensations. This result,—take, for instance, the sense we have of fatigue or elation,—is exceedingly hard to decompose. It seems an obscure confusion or blending of organic sensations from a variety of sources, and I confess that at present I should not feel able to discuss it. I have mentioned it to point out that it does not concern us, for it is clearly no more than concomitant with, or sequent on, what we call activity. If we have hitherto found no revelation of energy, we need hardly look for its original message in this residual oracle of organic sensation.

I have now said all that within present limits I can say on the psychical origin of our sense of activity, and of the meaning we might give to the term in psychology if so disposed, and I must hasten to bring these remarks to an end. But there is one point as to which I may fear misconstruction. It might possibly be said that physiology proves attention to be active, and that this settles the matter. Now of course I am not competent to speak physiologically. I have the sincerest respect for physiologists. I believe them to be men as a class superior in ability to psychologists and surpassing them in devotion, and engaged on a subject to whose difficulties (it seems to me) those offered by psychology are in comparison trifling. But such a question as the existence of a psychical activity is a matter which falls outside physiology. We might get from that science instruction valuable and, in some particulars, even necessary; but suppose that we knew (as I presume we do *not* yet know) the physical side of the psychical process, is it certain that about the main question we should not be precisely where we are now? For in the first place the existence of this or that feeling could hardly be deduced from physiological premisses if actual observation were unable to find it. And in the second place between a process in the brain and a consciousness of energy there is really a gulf which is not to be filled up. You may know from experience that they are found together, but, given the first, you could never have got to the second, and they remain in the end quite heterogeneous. And so I venture to think that,

whether the incoming current stimulates the centre, or the centre discharges on the motor nerves, or the central motor organ puts forth energy also upon the sensory centre, or whatever else may happen, is as regards the main question entirely irrelevant, and, so far as I can judge, seems likely to remain so. And if any one replies, Here is physiological activity with a psychical feeling, and *therefore* of course the latter must be a feeling *of* activity, I will not gainsay it. I will merely ask him not to vary the meaning of his phrase without giving us notice, and somewhere to set down as clearly as he can what he means by a physiological activity. He should then give us a list of the psychical states where this condition is present, either according to the doctrine of physiologists in general, or of perhaps two or three, or of perhaps himself only. And in this case we may avoid that disastrous muddle of the body and the mind, which may appear "scientific" but can advance no science.

We have now seen that from physiology no evidence can be brought to settle our main problem, and we have already attempted to exhibit the origin of our sense of expended energy. If that account is correct, then a specific activity of attention is no fact observed in the mind, but is a construction more or less fictitious and misleading. And if our account is not correct, that result still remains. We shall have shown that in every stage of attention we require no intervening event, and that a sense of energy (supposing it to exist) would be therefore not essential and probably not effective, but a more or less constant concomitant or result. And, if so, we have accomplished the task we undertook. There are two features however in the process of attention which deserve a passing notice.

Is attention negative, and is it so directly or always indirectly? I think the latter view the right one. When we are engrossed by one thing we lose sight of the others (why this must be so I shall not enquire), but the attention seems positive. And when an idea is painful and perhaps suggests also a prospect of pain, and when because of this character it is weakened or banished (I shall not ask through what means), there is in no case a negative activity of banishment. The attention which banishes is the dominance of an interest exclusive of the first and with a possible dominance of the idea of their conflict. In the latter case the positive interest will be strengthened by a powerful contrast, and attention to the pain will increase its strength and may hasten its disappearance. Further, when we attend to the absence of a certain idea in the sense of attending to

the prevention of its presence, the influence is positive. We have the idea of a certain element being suggested and being found in fact to be incongruous with reality, and we have also (let us say) the desire that this should be so. Hence, when the idea arises, we have (apart from the weakening action of pain) a strong suggestion of its expulsion from the field. And the first chance mental element that suits with this suggestion attracts our notice and is used as the positive side of expulsion. But if the idea of what ought to be expelled is too dominant, the process renews itself and defeats its own purpose. There can be no attention which is merely negative.

Finally we may ask how attention is fixed. We resolve to attend, and we persist in that attitude though the object is not in itself engaging. This is easily explained. In resolving to attend we had, as we saw, an idea of ourselves, and we have in the sequel a constant perception or feeling of ourselves (based no doubt upon our internal sensations) as being here and now and in this or that disposition or attitude. It is this more or less particular perception of self which recalls the resolve, and, in the absence of attention, produces a conflict between the idea and the fact of ourselves. In the same way any obvious external object or internal condition, once connected with the idea of myself engrossed in a certain way by such or such an object, will more or less continually suggest that idea with the usual result. The principle in these cases is one and the same, and the detail of its various applications would hardly serve to make it much clearer.

II.—THE FINAL AIM OF MORAL ACTION.

By Stanton Coit, Ph.D.

All questions of morals resolve themselves practically into these two: What ought to be my final aim in life? and What ought I to do to attain that end? Logically considered, the adoption of the true end of life is only one of the many acts which a man ought to do; so that these two questions resolve themselves into one: How ought I to live? or, scientifically expressed, What is the universal distinguishing characteristic of right action? And yet ends of action in general are so controlling over the affections and appetites, that to adopt the true final aim may be regarded as the one duty of life, and to find out that end the one problem of ethics. For if a man pursues the true end of life, "it will follow," as Bacon says, "that he shall mould himself into all virtue at once. . . . In obtaining virtue by habit, while a man practiseth temperance, he doth not profit much to fortitude nor the like; but while he dedicateth and applieth himself to good ends, look! what virtue soever the pursuit and passage towards those ends doth commend unto him, he is invested of a precedent disposition to conform himself thereunto." And one can say of society quite as well as of the individual man that the pursuit of ends commends the proper means and invests of a precedent disposition thereunto. It is accordingly because of this psychological and social law that the determination of the final moral end of life becomes the main problem of ethics. To be sure, there is, as we have said, the broader question as to the universal criterion of right action. But this criterion has no significance except in its application. And it is not sufficient to apply it here and there, in isolated cases, to this or that act, under these or those special circumstances. It must be applied to the one creative act of conduct, the adoption of a final aim in life. In this way, and only in this way, shall we find the formative principle of conduct for the individual and the state; and in finding that we shall have attained—what hitherto has been lacking in ethics—a systematising principle. One might say that the universal criterion determines the circumference, but the final aim locates the centre of moral conduct, and that both are necessary to complete the geometry of righteousness.

Christianity gave definite answers to both these questions. "Lord, what shall I do to be saved?" To be saved was the final aim of life for every man; to obey whatever precepts Jesus gave was what one ought to do. And without doubt the secret of the vast power which Christianity has exercised over the thought and conduct of men has been the intensely personal character and the definiteness of its answers. It directed the scattered rays of a man's moral energy into one burning-point, and thus seemed to give to a man's life a new heat and light. Modern moralists, unable to accept the precepts of Jesus as the final authority or as the complete rule of life, have devoted almost their entire attention to an examination of the origin of moral sentiments, and to a search for the universal standard of right action. The result is that moral scepticism has been refuted; morals is seen to have a common basis with other knowledge. Also a more or less satisfactory standard by which to measure the relative worth of actions and impulses has been found. But that act by which a man shall mould himself into all virtue at once has not been determined, indeed not even searched for. Impulses, self-love, benevolence and the like have been examined and their relative moral worth noted. So, too, the various objects of natural impulse, which men actually pursue, have been considered, and it has been shown that results morally desirable have ensued where not consciously aimed at. Nothing more definite has been done toward deciding what should be the final aim of life. And yet not because the Christian answer to that question continues to be accepted. Rather has the question itself been rejected. There has been a tendency to doubt that there could be a universal final aim of conduct. Wherefore, for the sake of the completeness of ethical science, and because of its practical significance in life, we again put the question: What is the true moral end of life for every man? and we attempt a definite answer.

In our investigation we shall make but one presupposition, namely, that *right* and *wrong* are not merely fictitious qualities of conduct. We start with the simple assumption which, as Prof. Sidgwick says, "seems to be made implicitly in all ethical reasoning,—that there is something, under any given circumstances, which it is right or reasonable to do, and that this may be known". Accordingly the only objection which can be made to the method we pursue is that there is no such thing as moral experience. As to this objection we are of Hume's opinion, that those who deny the reality of moral distinctions may be ranked among the disin-

genuous disputants. We may therefore, undisturbed by any such objections, proceed with our investigation.

Our method will be to find out the universal, distinguishing, characteristic of right action, and, using this characteristic as the standard of value, to determine the relative worth of the various objects that may be proposed as the final aim of conduct.

Whoever will group together all the actions and dispositions of the will which in various ages and societies have received moral approbation, will find a vast majority of them to have as their essential characteristic the tendency to promote the permanent happiness of society. He will find a corresponding majority of those which have received moral censure to have a contrary tendency. Moreover, where deeds positively detrimental to society have been approved, it will be found in general that they were at least believed not to be detrimental, and it will be found that "variations in the moral code of different societies at different stages correspond, at least generally, to differences in the actual or believed tendencies of certain kinds of conduct"; so that neither men's actual approval of conduct detrimental to society nor the variations in positive moral codes can be used as an argument against the acceptation of "the tendency to promote universal happiness" as the distinguishing characteristic of right action. Indeed, if any induction can lay claim to scientific certainty, this can—that under any given circumstances that action is right which tends to increase most the general sum of happiness. So well grounded is this inductive generalisation that it may with perfect security be used deductively and applied as a test to all doubtful cases of conduct that may come up for consideration. And let it not be objected that in reasoning from the common moral judgments of men we can attain only what men have thought was right and not what is actually right. For the method here implied, of which the best illustrations are to be found in Aristotle, Hume and Sidgwick, is not to be confounded with that of gathering the opinions of men on a certain subject, rejecting the points in which the opinions conflict and setting up those which are held in common as the standard of truth. We have not searched for what men have thought to be the essential characteristic of right action, but for the essential characteristic of actions which men thought to be right. If our method had been to gather men's opinions as to the essence of virtue and duty, we never could have arrived at the conclusion that it consisted in the tendency to promote universal happiness. But our method

has been to find out that quality of conduct which, perhaps all unconsciously to themselves, occasions men to affirm *rightness* of any act. And we have found such a quality, and in it accordingly have attained the objective standard of moral worth.

The only moral justification of any act or disposition of the will is the tendency to increase the sum of universal happiness more, under the given circumstances, than any other act or disposition would increase it. This ground of justification will be found to be held implicitly in all other grounds that may be given. And probably no one would ever have objected to it as the standard of moral worth, had not its advocates cast discredit upon it by applying it imperfectly, by choosing unfortunate words in the statement of it, and by associating it with their own peculiar theories of knowledge. They have inclined to convert morals into politics, to regard only "the greatest number" of men as sacred,—to depreciate the moral claims of the individual man. In private morals they have emphasised outward acts to the neglect of inward disposition. They have quite overlooked the subjective side of the moral life. The words that have been most frequently used, "happiness," "pleasure," "utility," could not but cast opprobrium upon the principle they were setting forth. Furthermore, all intuitionists in morals have been held back from appreciating it by the persistence of its advocates in allowing for it no other than a purely empirical basis. And yet it may quite as well lay claim to being an intuition of reason as any of the special duties which have been regarded as such. Prof. Sidgwick goes even so far as to speak of it as that most pre-eminently certain and irrefragable intuition. It is clear, therefore, that in adopting the standard of "Universal Hedonism," one does not commit oneself to any special theory of the origin of morals. This neutrality as to whether the final principle of conduct be *a priori* or *a posteriori* we may perhaps seem to have violated, in speaking of the principle as an inductive generalisation. But in speaking of it in this way we refer merely to the method by which we arrive at a scientific knowledge of it. It may in this sense be an inductive generalisation, and yet at the same time it may have been a regulative principle, an intuition, an *a priori* form of mental activity, guiding and determining the individual judgments out of which the generalisation was drawn.

An adequate explanation and justification of the moral standard we adopt, the purpose of this essay does not permit us to give. We have been able simply to indicate the method

by which we have come to adopt it, and to point out the accidental circumstances which have occasioned most of the objections against it. But the arguments for it in detail, being easy to be gathered from a host of writers, need not be repeated here. And perhaps, too, in simply using it in the special investigation before us, we shall, quite unintentionally, be giving the most impartial and convincing of arguments for it, since the trustworthiness of any standard is best proved by the particular results of its application. Taking therefore as the ultimate criterion of right and wrong the tendency to promote universal happiness, let us now test the worth of the various other objects which with any degree of plausibility may be proposed as the final aim of conduct.

The notion is a common one, that every man should seek his own greatest possible happiness in life. But the pursuit of this object would endanger the welfare of mankind, in the case of all men who did not happen to find their greatest happiness in furthering that welfare. Nor could it be argued that such men were always self-deceived and were not pursuing their true happiness. For, while without doubt men are often mistaken as to what will bring them the greatest surplus of pleasure over pain, and while both they and the world would be happier if they never were mistaken, still such mistakes are not the only cause why men in seeking their own greatest happiness pursue lines of conduct adverse to society. Men's passions and appetites are so adjusted that in the present state of society the greatest happiness can often be derived from a life not in conformity to the permanent interests of mankind. The case might be otherwise in a state where the full social and legal sanctions of right and wrong doing were immediately felt, and where one could not so easily as now escape the consciousness of moral unworthiness. But we must take men and society as they are. The peculiar nature of each individual man in his peculiar social environment is the only point of view from which to determine what would bring him the most happiness. And from the point of view of the man's own nature and environment the pursuit of his own greatest happiness would seldom tend to promote the universal happiness. Nor may we take any other point of view without confusion of thought ; for by so doing we can determine only what a man's greatest happiness would be if he were another man. This is, however, exactly the inadvertency into which most of the advocates of Egoistic Hedonism fall. What they mean is that each man should seek what would be his greatest happiness if he were a perfectly moral man. But the per-

fectly moral man is one who loves the right above all things, and his making his own greatest happiness the final aim of conduct would be equivalent for men not perfectly moral to limiting their final aim to the satisfaction of the moral sense. It would be unallowable for them to add certain other pleasures, such as those which arise from health, friendship, the possession of children and the like, since the interests of humanity may demand a sacrifice of all these. Such pleasures might be enjoyed when they come, but they must be regarded only as the accidental accompaniments of a right life, only as that share which may return to one out of the universal fund of happiness. But the pleasure of the moral sense need never be forfeited except with life itself; the pursuit of it would always invest one with the precedent disposition to conform to the interests of mankind, such conformity being the only way of attaining it. It must be admitted therefore that if a man may make at all his own happiness the final aim of conduct, it can be only the happiness arising from one source—the doing of deeds that tend toward universal happiness. He may seek his own happiness only to the degree to which he loves such deeds. Now if to that degree and from that source a man were to seek his own happiness, it is beyond dispute that he would thereby have predisposed himself to the interests of mankind. But if he were not a perfectly moral man by nature, he would not thereby gain his own greatest happiness ; he would be compelled to aim at something less. Egoism therefore does not furnish a final aim of life which satisfies the demands of the ethical standard.

Perhaps it may seem that the mere adoption of the tendency to promote universal happiness as the standard of moral worth involves the acceptation of universal happiness itself as the end of conduct. It may seem that if any other end be adopted, it would be equivalent to setting up two final aims of conduct. To this, however, it may be answered in the first place that the psychological act of measuring the worth of every deed and aim according as it tends to promote general happiness is not the same as aiming at general happiness. One might for some reason feel that this latter ought not to be aimed at, and yet at the same time might feel under moral obligation to conform oneself to that way of living which, if unhindered by external circumstances, would actually increase the sum of happiness. The act of conforming to the interests of society is not the same as making them the final aim ; therefore it would not involve a contradiction to justify some other aim than universal

happiness on the ground of its tendency to produce the latter. It would indeed be reasoning in a circle to say, for example, that one must aim at one's own peace of conscience because that would tend to promote the general welfare, and then to say that one must do what tends to promote the general welfare, because that would bring peace of conscience. The latter ground of justification, however, being false,—neither the peace of conscience nor anything else than the tendency to promote the general welfare being the true ground of moral justification,—no such reasoning in a circle is involved in the mere adoption of another aim than universal happiness. If the distinction between ultimate criterion and final aim be kept in mind, it will be seen that that object which a man ought to make the final aim need not be identical with that object, the tendency to produce which is the essence of morality. To be sure, the word end or aim might be applied to the latter, and generally has been, but with the result of confusing two entirely distinct psychological acts. Final aim, as used in this essay, means that part of a man's general purpose which is not a means to anything further; consequently, that object the attainment or production of which permits us to say concerning any act or disposition of the will that it has succeeded, and the failure to attain which renders the act a failure. The final moral aim of action would therefore be that object, the failure to attain or produce which would make action a moral failure. In the second place, it should be noticed that not universal happiness but the tendency to bring it about is the truly ethical conception. The sense of duty is satisfied without the actual realisation of universal happiness, but not without the tendency toward it; that is, the act and character must be such that, if unhindered by outward causes, they would produce it. Therefore out of the very nature of morality it might be deduced that universal happiness is not the true final aim of conduct, although the tendency toward it is the standard of moral worth, the sense of duty being satisfied without the former, but not without the latter.

But to determine positively whether universal happiness ought to be the ultimate aim or not, we must consider what the results would be. We find that certain psychological laws of the emotions and will would make it an impracticable aim. The notion of it, on account of its abstractness, would require a high degree of rationalisation in a man in order to take hold of his imagination and stir his enthusiasm. To obtain the vaguest sort of a conception of it is difficult even for minds specially trained to abstract thinking. And per-

haps still more difficult to grasp is the truth of the ethical generalisation that the essence of virtue is the purpose, and the essence of duty the obligation, to increase universal happiness as far as is in one's power. But besides the high degree of rationalisation, an equally high degree of moral development must be reached before the notion of universal happiness can furnish the desired stimulus to the will; the merely sympathetic impulse naturally limits itself to one or a few individuals, so that universal happiness would appeal only to a highly rationalised and moralised sympathy. The love of all men, simply as human beings, is psychologically the latest developed of all the motives to right action. An aim which appeals directly to it is therefore hardly a practicable one. In these respects either right activity itself or the immediate satisfaction of doing right would be more practicable. For to form correct moral judgments as to individual actions and to repeat these actions often is all that is necessary in order to do right for its own sake, and to distinguish the peculiar emotion which attends the consciousness of doing right is all that is required in order to make the inner satisfaction the aim. Either of these aims would require very little power of abstraction and generalisation in order to take hold of the imagination and awaken the impulse to act. Also in the development of the moral feelings the direct love of right and the desire for self-respect precede universal sympathy.

Again, the general welfare is ill-adapted to become the final aim of conduct, because its full realisation is so distantly removed in time. An immediate increase of happiness cannot be made the moral aim, since the immediate effect of right action is often a general increase of pain. Restraint implies pain, and duty demands of us often a discipline and restraint of others as well as of ourselves. "Universal happiness" can mean only the happiness which will pervade society when perfect righteousness has triumphed, together with whatever happiness the advance toward moral victory may admit of. Nothing else can properly be understood under universal happiness. Certainly the mere fragment of desirable consciousness which the advance toward moral victory may admit of could not deserve that name. Therefore to aim at universal happiness would be the same as aiming at the final triumph of justice and joy on earth. Those who especially have advocated as the essence of virtue and duty the tendency in character and conduct to bring about this triumph still have not set it up as the final aim. They have set up right activity itself, or

the immediate increase of social happiness ; or they have not at all taken into consideration what men's conscious purpose should be. On the other hand, with many modern socialistic and religious reformers the direct object of action has been " to create the kingdom of joy ". Now in proportion as the realisation of an object is seen to be distant, its power over the imagination and emotions is weakened. The thought of the final triumph of righteousness and peace on earth enkindles the heart and will in proportion as its coming is felt to be near at hand. And socialistic enthusiasts have really believed it to be near, or have thought they could suddenly —perhaps by violence—bring it near. But so far as merely human calculations are to be relied upon, the kingdom of heaven is not near at hand. Accordingly, it is an argument in favour either of right activity itself or of the satisfaction of the sense of duty as over against universal happiness, that their attainment is immediate.

But there is a far more serious objection to the adoption of universal happiness as the final aim of conduct. Its ultimate attainment can never be positively assured. It would therefore be an irresistible argument in favour of any other aim, if, in other respects equally eligible, it could be shown to be unconditionally attainable. Such an end would make despair and even discouragement impossible, and would satisfy the cravings of our nature for what is sure and abiding. But further,—which is of more importance,—only such an object could be an unfailing stimulus to moral effort. The effort to obtain any object naturally diminishes in proportion as the chances of success seem unfavourable ; and it ceases entirely when the object appears to be quite out of reach. Only when we affirm its existence does the thought of a future thing awaken the same emotions and impulses as the image of it, when present, produces. The thought of other existent objects, which would exclude its existence, disturbs the emotions which the thought of it as existent produces. It is true, some men shut their eyes to the facts before them and, rather than lose grounds for hope, project false ones out of their own fancy and desire. But such a device for inventing hope does not deserve a place in any system of ethics. We must rather say that any object would be unfit to be made the final aim of life in proportion as external circumstances could possibly prevent its attainment. The moral nature of man demands an object, which he may be sure no other power in the universe than himself can thwart ; for doubt,—the fear that chance may baffle,—unnerves the will. Now there are innumerable external

circumstances which do now, and may always, prevent the realisation of universal happiness. Historians, economists, statesmen and moral philosophers,—all who are best acquainted with the forces in human nature which determine the course of history,—are never pleasant optimists. The results of their insight and experience are as likely to crush one with a foreboding sense of ultimate failure as to inspire with the hope of ultimate success. Perhaps human society will continue for ever in the same mixed state of vice and virtue, of misery and joy, as at present, in spite of individual moral efforts. Perhaps the majority of men will grow more selfish and short-sighted, and the sum of misery increase. The course of history does not prove the contrary tendency. There has perhaps been a gradual development toward individual self-consciousness and an increasing subjection of nature to the human will, but there is no evidence that human life has become any the happier. History could never be a proof, however, that justice and happiness will finally triumph. The physical, emotional and intellectual energies of the race may become weaker; a period of degeneration may set in. It is a matter which cannot be determined; too many factors in the problem are unknown. If then the final triumph of joy and righteousness on earth be the final aim of conduct, what ground is there for believing that all moral effort may not be in the end thwarted? Suppose right and happiness should finally triumph, still is the race immortal? Would the physical conditions of the universe favour a society of the good? Would such a society be somehow caught up and preserved eternally, away from the conditions of heat and motion that are destructive to organic life? And yet such an hypothesis must be assumed, if universal happiness be the final aim of conduct, in order to secure an unfailing stimulus to moral effort and to prevent moral despair. The belief in the immortality of the race is as essential to a man who makes the final triumph of social righteousness the aim of life, as belief in the immortality of the soul is to any one who makes his own perfection of character and bliss his aim. The thought of the ultimate extinction of all human consciousness is as terrible to a man whose ultimate aim is the realisation of the social ideal, as the thought of the annihilation of one's own soul is to one whose heart is bent upon the realisation of absolute perfection in himself. The former would say concerning society as the latter concerning individual personality: If it be not immortal, let us eat and drink, for to-morrow we die. Therefore, if the attainment of

universal happiness be the ultimate aim of conduct, three hypotheses must be assumed, which have no other foundation than the need of having an aim which is unconditionally attainable. First, it must be assumed that somehow or other universal happiness will triumph in the world, and secondly, that the human race is immortal. And thirdly, as a ground of justification for these two hypotheses, it must be assumed that history and human existence are under the control of an intelligent moral author of nature. These are exactly Kant's premisses and conclusions in his *Kritik der Urtheilskraft*. He admits the possibility of a man's doing right, like Spinoza,—with no belief in God and no expectation of any advantage to himself in this or another world,—but argues that such a man would be forced to assume the existence of a moral author of the world, in order to have a conception of the possibility of the moral end which is set him. But the need of a thing, even though it be a need arising out of our moral nature, is not a scientific foundation for the belief that the need will be gratified. Nor is it morally justifiable to believe for practical purposes what we have not scientific grounds for believing. Accordingly, if for moral inspiration it be necessary to assume the final triumph of righteousness and bliss on earth, ethics ceases to be a science, and the imperative nature of the moral law becomes a just object of practical scepticism. A practical philosophy of life which men feel to be without scientific foundation, has and ought to have as little influence upon their conduct as a view of the physical world has, which they see to be unscientific. It is therefore no merely theoretical interest which demands the construction of a moral view of life, concerning which scepticism would be impossible. Faith is the very life of moral activity and moral activity the chief promoter of universal happiness. Therefore this one reason alone, namely, that an extra-experimental faith would be required in order to give the needed stimulus to moral effort, is of itself sufficient to condemn the adoption of universal happiness as the final aim of conduct. Now if either right activity itself or the satisfaction of the sense of duty be made the final aim of conduct, at least a consistent moral view of life could be constructed without resorting to the unscientific hypothesis of the final and endless triumph of either individual or social righteousness. Let us then consider these two ends.

The satisfaction of the sense of duty, that is, the satisfaction that comes from the consciousness of doing right, or, as we prefer to call it, the inner moral sanction, must not be

confounded with the delight that comes of merely contemplating moral ideals in general. The latter arises from seeing the ideal realised in another person or from merely picturing it in imagination, while the former arises only from seeing it realised in ourselves in the moment immediately at hand. The one is æsthetic and sentimental, the other moral and practical; the one, to be enjoyed, demands rapt contemplation amid the creations of poetic fancy, the other demands action and self-examination. This distinction must be kept clearly in mind in our discussion of the inner moral sanction as the final aim of conduct; for it makes a great difference, whether by *inner sanction* we mean the pleasure of seeing the ideal realised in one's own conduct at each moment, or the pleasure of beholding it in another person or perhaps in some fanciful creation. The latter could be the end of conduct only according to quite another standard of moral worth than the tendency to promote universal happiness. It could be the end of conduct, as Schleiermacher points out, only in a system of ethics where the happiness of the individual is made the criterion of right action. But Schleiermacher's eloquent logic against indulgence in the pleasures of sympathetic emotion merely by means of the imagination, without moving hand or foot for the good of others, cannot be turned against the pursuit of the inner moral sanction as the end of conduct. Shaftesbury may have erred in trying to prove that the pleasure of the moral sense would always constitute the greatest possible happiness,—as though the happiness of the individual were the standard of moral worth; and Schleiermacher was perhaps justified in maintaining against him, that from the point of view of the individual's greatest happiness the pleasures of contemplating imaginary excellence would have as much worth as the pleasures which arise out of one's own conscious moral action. But from the point of view of universal happiness the former pleasures have not so great worth as the latter; indeed they are positively immoral,—they tend to divert one from the obligation to act. Therefore it would be perfectly logical, from the point of view of universal happiness, to object to the former and not to the latter as the end of conduct.

The existence of the inner moral sanction and its peculiar nature may be determined by an observation of subjective moral experience. Whoever examines all the states of consciousness which the conviction that one is doing right or is doing wrong awakens will find that those which the thought of doing wrong awakens form a group by them-

selves,—they are all unhappy states of mind ; while the contrary is true of those which the thought of doing right awakens. Self-examination is never agreeable to the man whom his own moral judgment condemns ; the unhappiness of self-condemnation may mount to such intensity and volume as to drive men to the extremest measures for ridding themselves of it. On the other hand we find the conscious fulfilment of duty to be attended by a feeling of happiness which sometimes takes the form of deep inward peace,—such as personal reverence and trust produce ; and sometimes the form of gladness and exultation,—like that of a victor ; while in moments of supreme insight and action it breaks into rapture. We may comprehend all these forms of happiness, and may suggest the corresponding forms of unhappiness which the thought of doing wrong awakens, under the formula : *Inward peace attends devotion to the right.* If now we substitute for the formal conception "*rightness*" its material equivalent, we shall have attained a statement which embraces not only the individual and subjective but also the social and objective side of morality : *Inward peace attends that way of living which makes for universal happiness.* But at least to the inner sanction which attends a life in devotion to moral conviction men have always testified, whenever they have reflected upon their own conduct. Every philosopher from Socrates to Plotinus and from Spinoza to Schopenhauer has affirmed its actuality and universality, however differently they may have explained it. Out of it all reflective literature has drawn both form and substance. It is the burden of the Bibles of the world. It seems to be the central fact of religious experience. But the best proof of the existence of this great fact of subjective moral experience and of its actual power over the thought and conduct of men is to be found in the cardinal doctrines of life which Buddhism and Christianity teach. For without doubt the Oriental doctrine of the attainment of Nirvana through self-renunciation, and the Christian teaching of the new birth through repentance and faith, had their empirical basis in the deep inward peace which the founders of these religions derived from holiness of life ; while on the other hand Oriental pessimism and the Christian doctrine of sin had their empirical basis in the prevalence of moral self-condemnation among men. This peace the holiest of men have felt the most fully ; and all men have felt or may feel it in some degree and at times. It is a form of happiness which is bound up in the very consciousness of doing right ; it is attainable every moment of our conscious lives, and no

external power can rob us of it, except by robbing us of consciousness itself. "Our pleasures and pains generally," says Grote in his essay on the philosophy of morals, "are derived from the attainment of various objects foreign to ourselves; we desire those objects and try to attain them; our gratification depends upon success. The pleasures and pains of the moral sense, on the other hand, are not derived from the positive attainment of any object foreign to ourselves; they are derived from reflection on our own conduct in the pursuit of it. The satisfaction of the moral sense is independent of the actual results; it is not contingent upon success or failure; no external impediments can disappoint it." In other words, the conviction that one is doing right is the single condition for the attainment of the pleasure of the moral sense. It is therefore unconditionally attainable, since any sane man may know whether he thinks he is doing right or not. Accordingly the inner moral sanction would be at least a possible final aim for all men. If any one should affirm the contrary, he would unwittingly remove the very foundation of morals. He would imply that it is a matter of individual temperament or education, whether or not the reflection upon one's own conduct always pleases or pains according as it seems right or wrong. But this is equivalent to denying not only that there is an objective right and wrong, a common standard of action for all men, but that there is even a private standard for each man. In some men, according to this view, there may be no approval of conscience, no pleasure attending the belief that they are doing right, and no self-condemnation at the thought that they are doing wrong. But if there are such men, they simply drop out of our consideration entirely; they lack the proper moral faculties, and to propose to them any other final moral aim of conduct would betray as much lack of judgment as to propose the inner moral sanction.

But perhaps in saying that this would not be a possible end for all men, one would only mean that it would not constitute a sure test that their actions were objectively right. And certainly this is true. Various men might attain the approval of conscience by pursuing conflicting lines of conduct, since the pleasure inevitably attends the conviction that one is doing right, and the conviction itself, like all others, if not submitted to some objective test, is at the mercy of individual whim, temperament and education. But the final aim need not be an objective test of right action; that it stand the test, whatever that may be, is sufficient. Now to test the relative worth of the inner sanction as compared

with right activity as the controlling end of conduct is the special purpose of our immediate investigation.

The possibility of the inner sanction as the final aim might be again brought into question by those psychologists who trace all motives back to self-love. They might offer the objection that not every man would find in the moral sanction his own greatest possible happiness, and that for such men it would be a psychologically impossible aim. But their theory of human volition is at fault. They do not distinguish between a man's always following his strongest motive and his aiming consciously at his own greatest happiness for the moment or on the whole throughout life. The theory that all motives are forms of self-love we cannot refute here. We can only refer those who hold it to the arguments of Hume and Sidgwick against it, and to the analyses of the emotions in Aristotle and Butler, who continually recognise extra-regarding motives.

If the inner moral sanction be made the final aim of conduct, the ultimate rule of right becomes: *Let thy final aim in life be thine own peace of mind in doing what in thy best judgment tends toward universal happiness.* If right activity be made the end, the rule becomes: *Let thine aim be neither inward peace nor the outward results of thy conduct but the conduct itself, the deeds which in their nature tend toward universal happiness.* These two aims are alike in that they both are immediately and unconditionally attainable. They are unlike in that the latter implies an absolute worth in right activity, while the former attributes to it only a relative worth; the latter is objective, while the former would induce a subjective turn of thought; and the latter is practically less well adapted than the former as an exciting motive to action to beings of an imperfect moral nature.

If a man must set the final wish of his heart upon right activity itself, it must be because such activity has worth out of all relation to human consciousness, an absolute worth. And indeed it was exactly upon this notion that Kant constructed his theory that deeds must be done without regard either to external results or inner satisfaction. Now in no other sphere of human experience is any form of human activity made an end out of relation to its effects upon human consciousness. If right activity then be the final aim, morality becomes an anomaly in life, becomes something mysterious; and to explain it resort must be made again to an extra-experimental hypothesis. The expression "absolute worth" is a *contradictio in adjecto.* To avoid this contradiction and still hold to the notion that

right action has worth out of relation to human happiness, we must assume that such actions bring happiness to some other being than man. But this hypothesis is not scientifically justified, since the worth of right action, in cases of external failure, can always be sufficiently accounted for by the immediate satisfaction it conveys the doer. Kant's statement that a good will would shine like a jewel for itself, as something which had full worth in itself, is certainly true. But does a jewel shine except in relation to the eye that beholds, and has it worth except in relation to the delight in seeing it? So with a right act. It shines and has full worth in itself, for the mere beholding of it in ourselves or another is a joy. A will, seen to be good, gives immediate delight. In this sense it has absolute worth. It is independent of all external success in the attainment of an external object or in the production of any future happiness in ourselves or in others. But to say that it has worth out of all relation to consciousness is, from an empirical standpoint, absurd. To remove this absurdity, resort must be made, as we have shown, to metaphysical theories which have no scientific foundation. And such resort has continually been made. Metaphysical theories are brought in to justify the belief in the imperative nature of the moral law. But if such theories must enter into ethics, ethics ceases to be a science, a door is opened to scepticism. Now the advantages of gaining an inspiring moral view of life without transcending the sphere of inner and outer experience, without resorting to "*the thing-in-itself*" or any extra-temporal existence, would equal the advantages gained by having a point of view which does not require for moral inspiration personal immortality or the immortality of the human race. But before we can gain such an ethical view of life, we must remove the chief occasion for transcending moral experience. This occasion has lain in the felt need of an explanation of the absolute worth of right action. Now, in the first place, the whole logical difficulty is removed when the relation of right activity to the immediate delight which it produces is borne in mind, and when the moral impulse, the love of right, is seen to lie in human nature itself. This delight is that in relation to which the deed always has worth; furthermore, it constitutes a proof that the moral impulse has its root in human nature itself. In the second place, the natural inclination to ascribe a transcendent significance to right action would be checked by setting up as the end of conduct the immediate satisfaction in doing right in the place of right activity itself.

It is true that the rule: "Set thy heart neither upon inward peace nor outward success but upon right action itself; Do right for its own sake," has a tone of sublimity about it. But the reason is that its significance transcends human experience. It suggests the feeling that the moral law is not for the sake of man but for its own sake or that of some unknown being. Its sublimity is therefore not due to the moral exaltation which it awakens but to the sense of mystery.

It is a fact worthy of notice also that those philosophers who set up the activity itself as the aim have never done so on the ground that it would conduce most to universal happiness. One might say that Kant had no reasons at all for making it the final aim, since he simply asserts as a primary fact of moral consciousness that a moral will does have absolute worth, and therefore is an end-in-itself. His whole theory, however, of the relation of moral action to the emotions is so defective that his rejection of happiness in any form as the aim of conduct deserves little attention. He thought feeling ought no more to be the impulse than the aim of action. The Stoics also made virtue itself the end of action. But their reasons were quite the opposite of Kant's. They defined virtue as action in accordance with nature. All emotions they regarded as contrary to nature; therefore, no form of emotion ought ever to be the end of action. But both the premisses of this syllogism are arbitrary. Is it an intuition of reason that what is contrary to nature ought not to be aimed at? The Christian consciousness would not assent to such a statement. And is it a fact of experience that emotions are contrary to nature? Surely, under any of the numerous definitions which one might take, it would seem that nothing is more natural than emotion.

The subjective turn of thought which the inner moral sanction as aim would induce distinguishes it radically from right activity as the aim of conduct. And as in the former point of difference, here too we find the inner sanction to be the more conducive to universal happiness. It is sometimes argued that a subjective turn of thought takes the zest out of pleasure. But to this it may be answered that there could be no greater blessing to mankind than that certain pleasures should have much of their zest taken out of them; they are too keen, they tempt men to injustice and intemperance. And these are exactly the pleasures which moral introspection would damage. But it must be admitted also that certain pains would be intensified by self-examination. It would sharpen the tooth of a gnawing conscience. And yet

this increase of pain might work to the general good. Also the sorrow of sympathy would be quickened. In short, introspection would decrease sensitiveness to pleasure (ἡδονή) and its opposite, and increase sensitiveness to joy (χαρά) and its opposite. These effects, however, would help to promote the general interests of society. It may be further argued, in favour of an objective aim, that introspection is an abnormal, unnatural direction of thought. And certainly it is true that relatively to other faculties introspection develops late and seldom to a high degree, although in every person it develops sufficiently for him to observe the inner sequences of conduct. Indeed, whoever betrays evidences of remorse or of moral self-respect shows a capacity for moral introspection. The chief reason why it does not develop more highly in most men is because their will is bent almost wholly upon the attainment of external objects, and their intellect turns immediately in that direction. Moreover, in most men the will is not only attracted toward the external objects but repelled from the objects of internal moral observation. It requires, however, only that the will be bent upon some object, which for its attainment demands introspection, and the intellect will show itself equally capable and obedient as before. An introspective turn of thought, therefore, cannot be objected to on the ground that it is an unnatural use of the intellectual faculties : it is only a higher use. But if not unnatural, introspection, it is argued, is at least for practical life morbid and dangerous. And surely this argument is well taken if by introspection is meant the attempt to bring before the imagination certain abstract conceptions and to picture these as realities, in order to excite the emotions in the contemplation of them. Such a habit of thought is certainly morbid and dangerous both to the individual and society. And certainly the inner moral sanction should not be made the end of conduct, if it would induce this habit,—a habit that has been the most fruitful mother of all sorts of illusions, idolatries and vain speculations. Because of it, there has been no clear separation, in the consciousness of men, between what is really fact in the inner moral experience and what is mere inference. Facts, fancies and metaphysical explanations are all fused into one mass. In connexion with their inner moral life men are continually testifying to matters which in their very nature are incapable of being experienced. The result is that men of scientific habits of thought have been tempted to reject such testimonies entirely. They have suspected that all emotions arising from moral contemplation are based on

illusions. But the habit of attempting to picture abstract conceptions before the imagination until they seem real cannot properly be called introspection. It is indeed subjective, but it is only one kind of subjective thought. Practically it is the very opposite, in its effects, of observing and tracing the connexions of actual inner experience. There could be no better way of preventing the former than by practising the latter, that is, by observing emotions and tracing them to their causes. For this practice would reveal what was illusion and what was not, and any emotion seen to have been based on illusion would cease to exist. Now this healthy kind of introspection is the subjective turn of thought which the inner moral sanction, when made the end of conduct, would induce. For men could not then fail to see the natural, causal connexion between devotion to the right and the joy which accompanies it; and seeing this connexion, they could no longer regard "the rapture of self-renunciation," "the peace that passeth understanding," as a sign out of some metaphysical, extra-temporal world. It would no longer be a testimony of some mysterious "higher order of being" to which we belong, but simply of a higher order of conduct to which the human heart responds,—a more blessed way of living. And recognising, simply as a fact, that peace does come of devotion to the right, men would rest there. It is safe to say that they would find their "moral need of metaphysics" satisfied without metaphysics. They would no longer need a substance or a being for their support in the hour of trial and tribulation. The metaphysical need is simply the need of something to rest in, something eternal, unchangeable, and at the same time strong and tender. Just such a support can be found in the fact of universal moral experience, that peace against all the woes of life attends complete devotion to the right. Now the recognition of this fact would follow inevitably from reflection upon one's own conduct; and a predisposition to reflection upon one's own conduct would follow from making the inner moral sanction the final aim of conduct, since reflection is the very condition on which the sanction is attainable. Therefore, making the inner sanction the final aim of conduct, by turning men's attention to the simple sequences of the moral consciousness, would tend to dispel all fantastical and metaphysical illusions which have gathered about the deeper experiences of the moral life.

And especially in the present crisis in religious and moral thought throughout Christendom is there an urgent need of more exact moral introspection. Wherever Christianity has

been taught, men who have consecrated themselves to a right life have interpreted both this consecration and its sequences upon their own intellect, emotions and will, from a theological point of view. They have turned their attention more to the transcendental cause of their experiences than to the experiences themselves. They have regarded these as too sacred for scientific examination, or as in their nature inscrutable. The consequence is that the deepest moral experience of mankind during the last eighteen hundred years has not received just scientific investigation. To be sure, the testimony of Christians concerning their religious experience has not been critical; still, it is of priceless value to ethical science, and in return ethical science would become of priceless value to religion. For the latter is in need of a scientific basis, and ethics could furnish it with such in those sequences of moral consciousness which are the empirical correlative of its theological dogmas. And, on the other hand, ethics would find in the truths of subjective religious experience the spirit which should animate its rules. But a more subjective turn of thought is needed, not only on the part of scientific moralists, but also on the part of society at large; for the scientist here must use the observations of as many men as possible to supplement the results of his own inner experience. No doubt it is possible for men to become too introspective, just as it is possible to carry anything else to extremes; but that degree of introspection which a subjective final aim would induce would not be excessive. And if to make the inner moral sanction the centre of attention or the sole interest throughout life would predispose one too strongly to a subjective turn of mind, that is a very different thing from making it the final aim. There is no practical reason why, nor is it psychologically possible that, any final aim soever should remain the centre of attention to us. The boy who has an appointed lesson to get will fail to finish his task if he keeps all the time thinking about finishing. Yet, on the other hand, the boy who loses himself in the details of his work is also in danger of not finishing. It is necessary to the accomplishment of any end that the attention be turned from it to the means of accomplishing it, and yet not turned so wholly away that the end drop entirely out of sight. It would be, on the one hand, a confusion of thought or of words to say that an object was the end of a certain action and at the same time to admit that it was not consciously striven after; for *end* means something consciously aimed at. But on the other hand it does not follow, because the

end must be consciously aimed at, that it must always be the centre of attention. It is natural and normal for the will to allow the final aim to move from the verge of consciousness to the centre and back again, according as may best serve the end itself. This is the psychological analysis of the normal relation of any final aim of life that may be proposed to the centre of attention. We might say that, until it becomes his own private aim, a man ought to hold the true moral end of life in the centre of attention. But if he continues to hold it there he will become morally inactive and fail to attain the end. On the other hand, if he devote himself exclusively to the means, he will be in danger of converting them into ends and thus failing. It is therefore a psychological law concerning ends in general, and not any peculiarity of the inner moral sanction, that makes it unfit to be the centre of attention.

That the final aim cannot be the sole interest of life is in accordance with a kindred psychological law, *viz.*, that when we turn our attention upon external objects, no matter what they may be, men, animals, plants, the earth, the stars, we cannot remain quite indifferent to them nor treat them as mere means to an end. Such indifference would be so unnatural that, if anyone should manifest it, he would seem more like a monster than a man. The degree of our attachment to external objects becomes deeper the longer and more intently we occupy ourselves with them, and also the more points their nature has in common with ours. Accordingly in proportion as we pursue the inner satisfaction that comes of devotion to the right, we shall love our fellow-men. For at least the greater part of devotion to the right consists in justice, and in order to be just we must attend to our fellow-men. They therefore will become the centre of interest to us,—not because our end is served by them, but because our thought is directed upon them and our nature is the same as theirs. In short, to whom the inner moral sanction is the final aim of conduct, to him is mankind the centre of interest and right conduct the centre of attention. Therefore we must conclude that to make the inner sanction the end of moral action would induce the golden mean of introspectiveness,—between the too much that would arise from making it the centre of attention and interest and the too little which now prevails among men and which an objective aim would not increase.

In determining the relative adaptibility to human nature of the inner sanction and the activity itself as final aim of conduct, it must ever be borne in mind that the purely moral

impulse is one of the weakest of all in human nature, and the great problem of ethics is how to strengthen it. If it were the strongest, it would excite men to right action on the mere presentation of opportunity as immediately and naturally as the impulse to eat excites to action at the sight of food when one is hungry; and there would at least be no occasion for making the pleasure of the sense of duty the end of action. This pleasure would be attained without being aimed at. The mere impulse to do right, in the nature of things, precedes the knowledge of the attendant pleasure; and if it were strong enough by itself always to determine action, possibly aiming at the pleasure consciously might mar the perfect action of the moral nature; indeed the very thought of aiming at it, once creeping into the fancy, might prove the first occasion to evil. Therefore in reference to beings of a perfectly holy nature it may be true that they would not seek the pleasure of conscience, since so doing might not tend in their case to universal happiness. But the task before us is to apply the standard of right action to men in whom the moral impulse assumes the form of a feeling of obligation and not of mere inclination, a feeling of claim and not of craving. Men do not hunger and thirst after righteousness. And this changes the whole aspect of affairs; so that to offer men the blessing that comes to those who do righteously might be the very, indeed the only, means of creating the hunger and thirst. This would accord with the psychological law by which deeds done for the sake of the attendant pleasure transform themselves into deeds done for their own sake. One might say that to make the inner moral sanction the aim of conduct would be the last step in the moral education of the race and of every individual man. There is a stage when to set merely legal sanctions as the aim of conduct has a moralising influence and tends to make men love the right for its own sake. A higher stage is reached when only social and religious sanctions are set; here, as Shaftesbury and Lessing have shown, the transition to a controlling, impulsive love of right is easier and surer. But the highest stage of all is when no other reward is set than to stand unblamed in the light of one's own moral consciousness. And who has ever outgrown this stage of moral education? Will the human race ever outgrow it? In the present state of society the consequences that would come of removing even legal and social sanctions from right action are too terrible to bring before the imagination. And as for the thought of removing the incentives which the expectation of self-condemnation and self-approval gives, it

spreads a strange moral alarm through the heart of even the best men,—so deep is the consciousness of moral weakness. If anyone betrays self-security, as if he felt no need of even the inner sanction to keep him in the way of duty, no further proof is needed either that his self-examination has been superficial or that his ideal of duty is low. Nay, to strive for the inner moral sanction will never cease to strengthen the moral impulse in human beings, and thereby to further the interests of mankind. If it ever does, the moral impulse will have ceased to be a sense of obligation, and ethics will be no longer a science of what men feel that they ought to do.

But there is a deep-seated sentiment in the moral consciousness of civilised men which seems to oppose the adoption of the inner moral sanction as the end of conduct, and which, if really in antagonism to it, forms a strong argument against it. For the moral judgments of an enlightened society embody the accumulated wisdom of ages as to what will in the long run tend most to universal happiness. We must therefore analyse this sentiment and see what the exact truths are which it shadows forth, and whether these conflict with the end of action which our arguments thus far have led us to regard as the true final moral aim of life. "It is commonly thought," to use Prof. Sidgwick's very just statement of this sentiment, "that an act in the highest sense virtuous must be done for its own sake and not for the sake of the attendant pleasure, even if that be the pleasure of the moral sense; and if I do an act for the sole desire of obtaining the glow of moral self-approbation, which I believe will attend its performance, the act will not be truly virtuous". Now doubtless the moral judgment of anyone instantly assents to this. In the first place, to do an act for the *sole* desire of obtaining the glow of moral self-approbation, to have no elements whatever of pure benevolence in the motive, and no tendency to become lost in the deed itself, would indicate an abnormal and monstrous state of mind in the doer,—a state in which it would probably be impossible to have any judgment at all concerning right and wrong or any feeling of self-approbation in the consciousness of doing right. But we have already seen that an object, by becoming the final aim, does not become the sole desire. Therefore in this point the demands of the popular sentiment do not conflict with the adoption of the inner sanction as the last desire of the heart, as the object whose attainment would prevent any act or enterprise or life from being looked upon as a failure.

In the next place, the common sentiment, as generally expressed and as Sidgwick has stated it, wins our assent to its truth, because the words "pleasure" and "glow" always suggest, in spite of acquaintance with their philosophical use, the feeling which attends the gratification of the animal appetites; and the thought of a man's doing right, in order to obtain that kind of pleasure, is morally revolting to us. The two kinds of pleasure are wholly unlike. They spring up in the mind, and are associated with entirely different sets of ideas; their effects, too, upon ourselves and society are entirely unlike. They are what might be called antagonistic pleasures. Their only resemblance is that they are both states of mind which, considered in and for themselves, are desirable. No word in language is abstract enough to embrace them both and not bring them too near together. It is safer to use distinct words for each. If instead of "pleasure of the moral sense" the more appropriate words "peace of conscience," and instead of "glow" "joy" be used, our assent to the common opinion is apt to be less hearty. Therefore, so far as the popular sentiment against the pursuit of the pleasure of the moral sense is due to the association of this with an unworthier form of pleasure, so far it does not constitute any argument against the inner moral sanction as the final aim of conduct.

Again, much of the plausibility of the argument comes from the antithesis made between "done for its own sake" and "done for the sake of the attendant pleasure". When we examine our actual moral experience, however, we find no such real contrast. A deed originally done for the sake of the attendant pleasure, as it becomes more habitual, is apt to be done with less and less thought of the pleasure, until it is finally done for its own sake quite mechanically. Also in proportion as deeds are sudden, the attendant pleasure, although it were the original aim, recedes into the background of consciousness, and in moments of supreme urgency vanishes entirely. This transition of aim from the pleasure to the deed is as natural in the case of deeds done to obtain approval of conscience as in any other case; so that the popular antithesis is psychologically unwarranted. And it would be hard to see how deeds which, through habit or suddenness, have come to be done for their own sake, are on that account any more virtuous. If through habit a man should entirely outgrow the need of the inner sanction as incentive, he would not be more virtuous but rather the more mechanical; what is done from habit is commonly regarded as having no moral worth. That class of deeds

done for their own sake which awaken such lofty admiration are not the class which through habit are done for their own sake. But such deeds, while in themselves not more virtuous, are better signs of the settled disposition of the doer, and thus justify the preference given them by men in general. And yet, as we see, here also the popular sentiment cannot be brought against the inner sanction as final aim.

But there is still another ground for the popular sentiment. Since the original impulse to do right precedes the knowledge of the pleasure, only the act which springs out of this impulse would deserve to be called in the highest sense virtuous. But it is human nature itself which, measured according to this standard of virtue, is found wanting; and this weakness in human nature is really a reason for, instead of against, the inner sanction as end of action.

This aim may perhaps still be objected to on the ground that it would not be an entirely disinterested aim. But from the point of view of universal happiness it makes no difference whether it be purely disinterested or not. As Bishop Butler says: "We may judge and determine that an action is morally good or evil before we so much as consider whether it be interested or disinterested". The only question is whether an act or an aim increase the universal sum of happiness more than any other act or aim would. Kant, as we have seen, by no means proved that absolute disinterestedness is essential to rightness of motive, but only that no other reward should be sought than the satisfaction of beholding the good will in ourselves. Now in this relative sense it may be said that the good will is disinterested. This use of the word would be justified by analogy. The artist who seeks no other reward than the delight in creating a thing of beauty is said to be disinterested in his art. Although his motive is not benevolence, still it is also not self-love. It is the love of delight in beauty, and this desire can be traced back only to the love of beauty itself as an original impulse in the nature of the artist. Likewise when a man seeks the peace of conscience, his motive is the love of delight in goodness, which springs not out of love of self but out of an original natural impulse, however impotent, to do right. Furthermore, deeds, in this relative sense disinterested, may be said also to be "done for their own sake," since the attendant pleasure is an immanent effect of the activity. This is the sense in which Hume would use the words "done for their own sake". At the close of his Essay "Concerning Moral Sentiment" he speaks of virtue as "an end," as "desirable on its own account, without fee or reward,

merely for the immediate satisfaction which it conveys". The words "merely for the immediate satisfaction which it conveys" are added in opposition to the expressions "an end" and "desirable on its own account, without fee or reward," in order to explain their meaning. And indeed if this immediate satisfaction, the inner moral sanction, be not meant, what possible sense can there be in saying that "virtue is its own reward" or is desirable on its own account?

Further, upon close psychological analysis it seems to be impossible for a man to do a deliberate deed of virtue and not do it in part for the sake of the satisfaction of conscience. It seems impossible deliberately to cut off desire for all external and internal effects of an act. And we find that "common sense" does not demand it. On the contrary, men of stalwart moral nature are prone to resent purely altruistic or objective motives as an explanation of their deeds. The acts of greatest self-forgetfulness they try to explain as having been done at bottom for themselves. The biographer of Abraham Lincoln, of whom Emerson said that "his heart was as big as the world," tells a homely story of him which illustrates the healthiest moral consciousness on this subject. One day Lincoln was riding along a country road, when he noticed near by a pig making great efforts, but in vain, to get out of the mud into which it had sunk. Lincoln rode on a mile or two, then turned round, rode back, took planks and boards and lifted the unfortunate animal out. The exploit becoming known in the neighbourhood, a friend remarked to Lincoln the next day: "You must be a very unselfish man, Mr. Lincoln, to have helped that pig out of the mud". "Unselfish?" replied Lincoln; "why, I did it for my own sake, not the pig's!" Whenever the question of duty is not clear and deliberation is required, the doer cannot help seeing that the highest motive is to gain his own self-respect. And such acts, although known to be done for the approval of conscience, would gain for the character of the doer, if not such intense admiration as is gained by deeds done with no thought of the inner satisfaction, still as deep trust.

Besides, if we remember that the uncritical mind is always disposed to regard the deeper moral emotions as having their root, not in the mind itself, but rather in some external power, we shall see that the moral consciousness of men is in fact on the side of the inner sanction as the final aim of conduct. We find Christianity, for example, offering its consolations and urging men to seek the comforts of

religion, "the joy of the Lord," the blessing of the Holy Ghost, the love of Christ. The Christian consciousness knows nothing of doing deeds "for their own sake". Whatever asceticism Christianity may contain, it has never demanded the renunciation of the peace and joy of self-denial. Rather has it made the inner moral sanction not only the controlling but the exclusive aim. And doubtless this exaggeration of zeal, together with the mystical interpretations given to the spiritual emotions, has cast discredit upon the pursuit of a subjective moral aim. But at least it must be admitted that the Christian consciousness affirms the pursuit of the peace that comes of devotion to right to be in the highest sense virtuous. And as to the common moral judgment of the Greeks on this subject, if we regard Aristotle's judgment as a fair expression of it, it is at least not adverse to making the pleasure attending right activity "the highest good". For Aristotle refuses to distinguish between the right activity and the accompanying pleasure. He says that the pleasure belonging to the activity is more nearly related to the activity than is the desire for the activity, as this is separated from the activity both in time and by nature, but the pleasure stands very near; and it is so hard to separate the activity from the pleasure that one may doubt whether the former is not one and the same with the latter. Aristotle seems to approach Spinoza's thought, that the delight in right activity *is* virtue. At least, since he seems to oppose a separation of the two and to admit that doing a deed for its own sake may be one and the same with doing it for the attendant pleasure, his testimony may also be counted on the side of the inner moral sanction as the highest good. And in the post-Aristotelian development of ethical thought, however divergent the abstract theories may have become, in their practical outcome they seem all to have agreed that the highest good was the conscious satisfaction of virtue itself.

Of the many effects of adopting this aim none is more prominent and characteristic than the supreme worth with which it invests each passing moment of life. With this aim a man can no longer look upon his life as a process of gradual development toward perfection, in which each moment and day gets its meaning from its relation to the future. It is as if he were taken out of time. "To be eternal in every moment," says Schleiermacher, "that is the immortality of religion." A man's life will then appear to him like a process of crystallisation. The process may have only begun, but the crystal is already there. From the

beginning of the process to the end the form is never unfinished. The beginning and the end meet in one and the same moment of time. The activity and the joy, the deed and the sanction, are the alpha and omega of the moral life. No longer can the future be for ever looming up before the imagination in exaggerated shapes and colours, since the aim of life does not lie there. And at the same time a man will be freed from the spectre of his past self. Neither his past nor his future but his present activity will be the source of his moral pleasures and pains. Herein we find the ethical correlative of the Christian doctrine of the forgiveness of sins; in complete consecration to present duty one feels and knows one's self freed from one's past transgressions. And naturally when a man's past self vanishes, it takes with it the personal hopes and dreads which it had cast over his future.

Again, when the moral aim of life is to be attained each moment afresh, the attention and interest naturally turn upon the actual duties and relationships immediately at hand. This gives the pleasures and pains of the moral sense something of the vividness of perceptions and physical sensations. The moral emotions have been weakened and the moral energies dissipated by association, in the imagination, with the distant past and future—as if there were no real cause for these emotions in the contemplation of one's actual, immediate conduct and motives, and no immediate demand for moral energy in the present sufferings of men. But by increasing the moral dignity of each passing moment the inner sanction as aim would increase the worth of all kinds of thought and feeling at the same time. It would moralise the whole man. As might be expected from the true final aim, it would so predispose a man to all virtue at once, that all the subordinate duties of life would, as it were, fall into order of themselves. In the first place, it would induce reflection upon one's own conduct. This reflection is one of the highest of mental activities, and thus the pursuit of the approval of conscience would have a directly rationalising effect. It would tend, without a special conscious effort on the part of the doer, to the exercise of the mental side of life, as opposed to the physical. Further, it would develop directly a man's consciousness of his own moral individuality, and with that the love of personal liberty on the one hand, and the sense of personal, moral responsibility on the other. Every man would come to feel himself, as Kant would desire, a moral and rational end in himself. Again, to make the inner moral sanction one's

final aim in life is the positive side of the act of self-renunciation. It would therefore bring with it the peculiarly Christian virtues of humility and self-denial. For if a man pursues peace of conscience, he renounces his own greatest pleasure, in that he binds himself to the conditions inexorably set in the nature of things for the promotion of universal happiness.

But the notion of the final aim of conduct has significance not simply for each man separately. It is equally important in the solution of social questions. It sets for us the moral social ideal. That must be a state in which every man pursues the true aim of life. From the mere notion of a state of universal happiness we cannot deduce the relative proportion in which the various human appetites and desires are to be gratified. But add to it the notion of the universal aim which will best promote universal happiness, and we get a useful conception. Those desires and activities are to be chiefly gratified and stimulated which psychologically are found to lead to the adoption of that aim, and those repressed which hinder its adoption.

The social ideal is a state of universal happiness *and* universal virtue. Not every increase, therefore, in general happiness is to be called a moral advance, but only those social changes which make men's characters tend more to promote the common welfare. And yet, if the inner satisfaction of living in conformity to the interests of mankind be the highest aim of conduct, moral reform becomes a message of glad tidings to men. It is instructive to note what pleasures our secular philanthropists suggest in despair of anything more effective, for the poor and illiterate, as a foil to baser pleasures. Is there, then, no pleasure of the moral sense to promise men and assure them of? What the poor, what the illiterate, what all men need is fellowship in the moral life. For through such fellowship the neglected moral instincts are cherished and strengthened.

III.—ON PLATO'S *PHAEDO*.[1]

By D. G. Ritchie.

I.

Before we can answer the questions: 'What are Plato's arguments about the soul's nature and destiny?' 'What is their relation to one another?' 'What is their value?' we are obliged to consider how far the expressions used by him are to be understood literally.

Plato's visions of another world have fixed themselves indelibly in the common consciousness of Western civilisation. We hardly know, without the most careful examination, how many of those beliefs that are often spoken of as if they were peculiar to Christianity are due directly or indirectly to Platonic influence. Thus, even if it should be the case, as Hegel[2] holds, that the mythical element in Plato is quite unessential in his philosophy, or, as Teichmüller[3] holds, not believed in at all by Plato himself, this mythical element would still deserve the attention of all students of human thought, both as taking up previous Pythagorean, Orphic, probably Egyptian and perhaps Indian ideas, and as influencing all the Hellenic and Roman world, *i.e.*, what we commonly call the whole world. And, in any case, the mythical form of expression must throw some light on Plato's habitual manner of thinking; for we cannot abstractly separate form and content, expression and thought.

Let us take the three characteristic Platonic 'doctrines' of Recollection, Pre-existence and Transmigration, and endeavour to discover in what sense they are to be understood.

1. The doctrine of Recollection (*ἀνάμνησις*) occurs both in the *Meno* and the *Phaedo*. "Knowing is remembering." This theory seemed to obviate the Sophistic puzzle about the impossibility of learning:—We either learn what we already know or what we don't know: in the first case we don't learn; in the second case, we can't (cp. *Meno*, 80 E). This is just one of those instances where the Aristotelian distinction of potentiality and actuality comes at once to *our* help. We learn what we are capable of knowing; we cannot

[1] Read before the Aristotelian Society on Nov. 30, 1885. Only a few additions have been made, with some alterations in the form.

[2] *Geschichte der Phil.*, ii. 207 ff.

[3] *Studien zur Gesch. der Begriffe* and *Ueber die Unsterblichkeit der Seele.*

learn what is quite alien to us. But the knowledge, which in some form is *there* already, is there only virtually, and requires the effort of what we call learning to become actual, to be realised, to become what we can properly call *knowledge*. Plato in the *Theaetetus* (which in many respects may be called the most 'modern' of all his dialogues, for in it he discusses not the usual ancient question of Being, but the modern question of Knowing) does arrive at this Aristotelian distinction in his recognition of the difference between "possessing" and "having or holding," illustrated by the birds in a cage (*Theaet.*, 197); but it remained for Aristotle to grasp the full significance of this distinction, which has become so much a commonplace of our language and our thought that it requires an effort to see its importance and to understand how the problems of knowledge presented themselves before the time of Aristotle. Now, this is just the philosophic truth of Plato's theory of Recollection: in learning the mind is not filled with something alien to it,—as popular language, now as then, is inclined to assume, and as even some philosophers have been apt to suppose, when they ask how Mind can know Matter, after defining Matter in such a way that it is of its very essence, as the exact antithesis of Mind, that it cannot be known. According to Plato, in learning the soul recovers its own. This is more than a theory of knowledge merely. In the *Phaedrus* it becomes a theory of art and morality as well. The ideal of beauty, the ideal of goodness, is figured as something we have once known and have to regain. And are we not all ready to speak and think in this way? What is the meaning of the phrase 'Natural Rights,' which popular politicians have not yet given up, and which even Mr. Herbert Spencer defends against Bentham and Mr. Matthew Arnold? We have come to form an ideal of society, and we speak as if that were a state from which we had fallen away. We transfer the 'ought to be' to 'once upon a time'—a golden age, 'a past that never was a present'. The same tendency of imagination may be found in the treatment of the term '*a priori*'. *A priori* conceptions, in Kant's use of the term, are those which are necessarily implied or presupposed in knowledge. How often is the Kantian theory of knowledge criticised as if Kant had meant that the infant comes into the world with a ready-made logic! We become explicitly conscious of the necessary conditions of our thinking very late, if at all; but the conditions are *there* implicitly all the same. In the word 'presupposed' there again slips in the suggestion of priority in time.

The doctrine of Recollection has been made most familiar

to us by Wordsworth's Ode. But this, we may well say with J. S. Mill (though I know not whether in his sense), is "falsely called Platonic". Wordsworth makes life a gradual decline: Plato makes it a progress. To Wordsworth it is a forgetting: to Plato a remembering. In Wordsworth the child is nearer heaven than the full-grown man: in Plato the full-grown man, if he has used his time well, has regained much of what he lost by birth.[1] Wordsworth's beautiful fancy owes more to the sentimentalism of Rousseau than to Plato's idealism.

How far was Plato conscious that his doctrine of Recollection was only a *Vorstellung* representing a *Begriff*, an expression in terms of a history in time of what is really a logical development? The theory of Education in the *Republic* seems to supply an answer. It is sometimes said that in the *Republic* Plato applies the theory of ideas at which he was arriving in the *Meno*, but that he has given up the doctrine of Recollection at least as an essential part of his theory of knowledge (though it is alluded to in the 'myth' at the end, 621 A). Now, I shall assume as a canon of interpretation in the case of Plato, as of any other philosopher, that we must start with the supposition that his thinking is coherent, and that we must begin by looking for agreement rather than for disagreement. On the other hand, we cannot put the canon in the form in which Prof. Teichmüller and Mr. Archer-Hind put it—"that any interpretation of Plato which attributes inconsistency to him stands self-condemned".[2] Consistency is a very poor virtue to ascribe to Plato: it would imply that his system sprang ready-made from his head and that it admitted of no growth—a view seriously maintained by Schleiermacher, who regards the order (*i.e.*, the order which he conjecturally prefers) of the dialogues as representing an order adopted for purposes of exposition and not an order of development in the writer's mind. When, therefore, in the *Republic*, we find Education described as "the turning round of the eye of the soul to behold the truth,"[3] it seems reason-

[1] This has been pointed out by Mr. Archer-Hind in his edition of the *Phaedo*, p. 85.

[2] Edition of the *Phaedo*, p. 24. Mr. Archer-Hind cannot mean this to be taken too literally, because he certainly admits a development in Platonic doctrine.

[3] *Rep.* vii., 518 B, C. "Certain professors of education must be mistaken in saying that they can put a knowledge into the soul which was not there before, like sight into blind eyes. . . . . Whereas our argument shows that the power (δύναμις) is already in the soul; and that as the eye may be imagined unable to turn from darkness to light without the whole body, so too, when the eye of the soul is turned round, the whole soul must be turned round from the world of becoming into that of being, and learn

able to identify this with the theory of Recollection, divested of its mythical setting; but we are not therefore justified in arguing that this mythical setting never had any real significance for Plato himself.

2. If the doctrine of Recollection be merely a figurative way of expressing the logical nature of knowledge, what becomes of the Pre-existence of the Soul about which so much is said, not only in the *Meno*, *Phaedo* and *Phaedrus*, but in the end of the *Republic* itself? The pre-existence of the soul is 'proved' in the *Phaedo* sooner and more easily than its existence after death; and all the arguments in the *Phaedo*, as well as the argument in the *Phaedrus*, prove existence after death only in such a way that existence before birth is necessarily implied also. This is not the case with the *argument* in the *Republic*, although the "Vision of Er" introduces pre-existence as much as do the Apocalypses of the *Phaedo* and *Phaedrus*. Mr. Archer-Hind goes so far as to say: "It is in fact impossible to bring forward any sound arguments for the future existence of the soul which do not also involve its previous existence, its everlasting duration. The creational theory is matter of dogmatic assertion, not of philosophical discussion" (p. 19). The idea of pre-existence was rejected by most Christian theologians, because it seemed inconsistent with the creation of the human soul by God. (It was accepted by Origen; but then Origen was not accepted by the Church.) Quite consistently, the idea of a *necessary* immortality of the soul was rejected by most of the early Christian theologians. It is only later theology that has fallen back on the metaphysical doctrine of immortality.

As we have obviously, in the ordinary sense of the term, no recollection of having existed before our birth, it might be argued that, since Plato puts the existence of the soul after death on the same level with its existence before birth, either (1) he did not seriously hold the immortality of the soul at all, or (2) the immortality in which he believed was not what people ordinarily mean, or think they mean, by immortality, since it does not imply consciousness and memory: Plato, it might be said, maintains an *individual* but not a *personal* immortality, *i.e.*, the individual soul remains permanently self-identical, but consciousness and memory pass away at death.[1] It is somewhat strange that Plato should have made

by degrees to endure the sight of being and of the brightest and best of being, or, in other words, of the Good." (Jowett's Translation, according to which most of the other quotations in this paper are given.)

[1] In this sense of the terms Teichmüller (*Unsterblichkeit der Seele*, pp. 147-149) maintains that individual immortality can be apodeictically proved, but that personal immortality cannot be apodeictically proved or

no reference to this very obvious objection, that, if after death we are as little conscious of an identity with our present selves as we are now of any identity with a self before our birth, the immortality of the soul cannot matter to us. As Hume says: "The soul if immortal existed before birth: and if the former existence noways concerned us, neither will the latter" (Essay "On the Immortality of the Soul"). Yet the objection evidently was made in ancient times, because there is an attempted answer in a fragment of Aristotle's lost dialogue *Eudemus*, preserved to us by Proclus: "Aristotle," says Proclus, "tells us the reason why the soul coming hither from the other world forgets what she there has seen, but going hence remembers her experience here. Some who journey from health to sickness forget even their letters, but this happens to no one who passes from sickness to health. Now the life without the body, being the natural life of the soul, is like health, the life in the body like disease. Whence it is that they who come from the other world forget what is there, but they who go thither remember what they experienced here" (Arist., 1480 b. 5, Fr. 35, Edit. Berol.). We cannot say how far Aristotle when he wrote the *Eudemus* may have seriously or half-seriously meant what he said. We cannot certainly decide, whether in his opinions about the soul he passed through an early 'Platonic' stage (as Zeller thinks, *Arist.*, p. 602), or whether he was writing a Platonic dialogue more or less as a literary exercise, or whether the dialogues, being (as Bernays thinks) merely "exoteric discourses," must not be taken as evidence of Aristotle's genuine philosophical views. We know of course from the *De Anima* that Aristotle held no doctrine of either individual or personal immortality. But the passage quoted by Proclus may be taken as representing the answers which would have been made in a Platonic dialogue to an objector. It certainly agrees perfectly with the position of the *Phaedo*, according to which this life is a temporary imprisonment of the soul.

3. The idea of Metempsychosis or Transmigration has been more widely held than any other view about the destiny of the soul, and has even in modern times been regarded as that most capable of philosophical defence. Thus Hume says, in the Essay we have already quoted: "The Metempsychosis is the only system of this kind that Philosophy can hearken to". Hume may be writing ironically, maintaining the doctrine least acceptable to his enemies, the theologians, to be the most plausible. But no such suspicion attaches to

disproved. He holds, however, as we shall see, that Plato's idealism prevents him maintaining even individual immortality.

the famous passage in which Lessing at the close of his *Erziehung des Menschengeschlechtes* (§§ 93-100) says: "Why may not each individual man have been more than once present in this world? Is this hypothesis so ridiculous because it is the oldest? . . . . It is well that I forget that I have already been here. The recollection of my previous condition would only let me make a bad use of my present. And what I *must* forget for the present, have I forgotten for ever? . . . . Is not all eternity mine?"

Plato's accounts in his different dialogues are certainly not easy to reconcile with each other even in important points. Thus (*a*) we may doubt how far, according to Plato, any human soul can ever exist without a body of some sort: perhaps the completely free existence is only an ideal, never quite attained, although approximated to by the philosopher. In the myth in the *Phaedrus* (246 D) even the gods have a body. So in the *Timaeus* the created gods are compounded of body and soul. In the *Laws* however (x. 899 A) the incorporeal existence of the soul (he is speaking especially of the soul of the gods) is put forward as an alternative. Again (*b*) in the *Timaeus* (41 D, ff.) it is said that the soul is *necessarily* implanted in bodily forms: whereas in the *Phaedrus* (248) the descent into a body is spoken of as resulting from forgetfulness and vice, *i.e.*, as being a punishment for sin. This difficulty may be put aside: it is only one form of the contradiction between the conception of Necessity and Freedom which appears in all human thought, in all philosophies and in all theologies. Man falls by free-will, and yet the fall is regarded as necessary. (*c*) Zeller (*Plato*, Engl. Transl., p. 410, n. 55) has raised a difficulty about the migration of a human soul into lower animals. "How can man," he asks, "to whose nature the capability of forming concepts, according to *Phaedrus* 249 B, essentially belongs, become a beast?" To this it might quite well be answered, within the limits of the Transmigration-doctrine, that Plato means that because man knows by universals, his soul must once, *i.e.*, when "in heaven," have seen them: a soul which *to begin with* was a beast's, and so only a beast's, could not rise to be a man's. A soul may sink from among the gods to man, and then to beast, and rise again to be with the gods, only because at first it was with the gods. The rest of Zeller's objections may be met in a similar way. Thus, when he asks how can the life of the beast serve to purify the soul, the answer would be found in the conception of expiation by suffering. When the soul came to choose again, it would have been taught the evil of the merely animal life. And even among beasts, as

the Buddhists recognise, there are degrees of moral quality. Again Zeller asks: "Are the souls of the beasts (acc. to *Tim.* 90 E. ff.) all descended from former human souls and so all intelligent and immortal according to their original being, or (*Phaedr.* 249 B) only some of them?" Plato might answer that all souls, which are now souls of beasts, may quite well once have been human. The passage in the *Phaedrus* only implies that, *if* there were any soul of a beast that had never been human, it could never become human. Thus, though it *may* represent a different view from that of the *Timaeus*, it is not *necessarily* inconsistent with it. But the want of formal consistency in the mythology may be taken as indicating, what Plato himself suggests at the beginning of the *Timaeus* (29 C), that it is not to be taken too literally. We have here only 'probability,' not truth.

The key to the interpretation of Plato's myths seems to be given us in the *Republic* (382 C, D) where, after condemning altogether "the lie in the soul," *i.e.*, ignorance, he allows that "the lie in words" may be used in two cases: (1) as a medicine (*φάρμακον*) against enemies and to deceive men for their own good, as we do with sick persons and madmen; (2) as an approximation to the truth: where it is impossible to express the truth exactly, we may give something which, though false, resembles the truth as far as possible. Teichmüller[1] holds that the myths about the soul belong to the first class, like the myth of the earth-born men (*Rep.* 414 C ff.) which justifies the caste-system. The story of the earth-born men is obviously a dogma to be imposed authoritatively by the legislator on the ignorant classes; but the accounts of the origin and destiny of the soul seem to us to be 'permissible lies' of the second kind, as is suggested by the passage just referred to in the *Timaeus* and in the end of the *Phaedo* itself (114 D): "A man of sense ought not to say, nor will I be too confident, that the description which I have given of the soul and her mansions is exactly true. But I do say that, inasmuch as the soul is shown to be immortal, he may venture to think, not improperly or unworthily, that something of the kind is true. The venture is a glorious one, and he ought to comfort himself with words like these, which is the reason why I lengthen out the tale." There is certainly a passage in the *Laws* (959 A), to which Teichmüller refers, which seems to favour his view. With regard to the burial of the dead it is there written: "Now we must believe the legislator when he tells us that the soul is in all respects

[1] *Studien zur Geschichte der Begriffe*, p. 163.

superior to the body, and that even in life that which makes each one of us to be what we are is only the soul ; and that the body follows us about in the likeness of each of us, and, therefore, when we are dead, the bodies of the dead are rightly said to be our shades or images ; for that the true and immortal being of each one of us, which is called the soul, goes on her way to other Gods, that before them she may give an account—an inspiring hope to the good, but very terrible to the bad, as the laws of our fathers tell us, which also say that not much can be done in the way of helping a man after he is dead. But the living—he should be helped by all his kindred, that while in life he may be the holiest and justest of men, and after death may have no great sins to be punished in the world below." This passage does seem to rest the doctrine about the soul merely on the authority of the legislator. But while Plato holds that for the mass of mankind, who have only 'opinion' or 'belief' on all matters, such authority is sufficient, surely he does not mean us to think that the Socrates of the *Phaedo*, who is dying as a condemned heretic, holds the doctrine of immortality only as something imposed by old tradition. If so, all the lengthy *arguments* would be very much out of place. Though, in the *Laws*, Plato puts the views about the future life as 'a medicinal myth' for the multitude, they may still be 'a myth of approximation' for the philosopher. And in any case, the *Laws* cannot be taken as certain evidence of what Plato held when he wrote the *Phaedo*.

Let us assume, then, that what is said about the life before and after the present life is intended as an approximation to the truth. The difficulty remains to decide where myth ends and where logic begins. Critics have been too apt to suppose that Plato himself could always have drawn the line exactly. Our language and our thinking are conditioned by our ordinary experiences ; and when we have to speak of that which belongs to the insensible, we find ourselves compelled, however much we try to avoid it, to use phraseology belonging properly only to the sensible. We have to talk of the mind, which we know not to be in space, as if it were in space and had parts and divisions ; and we have to apply to what our logic compels us to recognise as independent of time conceptions and images which have strictly no meaning except as applied to what Plato calls " the moving image of Eternity ". In illustration one need only refer again to such phrases as '*a priori*,' '*pre*supposed,' to see how we ourselves are obliged to use 'the verbal lie'. Philosophy cannot dispense with metaphor. Only we should try to use our

metaphors with as full a consciousness as possible. It is metaphors which escape notice that are dangerous. Besides being subject to this common necessity of human thought, Plato is essentially a poet; and thus to him the language of myth is natural. His notions clothe themselves readily in sensuous imagery. And we cannot make a sharp distinction between Plato the poet and Plato the philosopher (as Teichmüller tries to do, *Studien*, p. 158). As already said, we cannot separate the form and the content of his thinking.

We can no longer hold, as used often to be held, that there is a fundamental antithesis between Plato and Aristotle. The agreement between them is far more fundamental than the difference. The severe and often captious criticisms of Aristotle must not blind us to the fact that almost every Aristotelian doctrine is to be found implicitly in Plato. As Sir A. Grant admirably said, "Aristotle codified Plato". In that phrase there is an expression at once of the essential agreement in thought and of the obtrusive difference in manner. There is of course a Platonic *system* of philosophy, in the sense in which every great philosopher, every thinker who is more than a mere brilliant *penseur*, has a system; but Plato's manner of working, not merely his manner of writing, is artistic rather than scientific. The difference between Plato and Aristotle is not that Plato is an idealist and Aristotle a realist—Aristotle is as much an idealist as Plato—but that Plato is a religious poet and Aristotle a scientifically trained physician.

Let us recognise, then, as fully as possible, that the philosophic truth of Plato is to be found in Aristotle. But it does not therefore follow that Plato himself would have accepted Aristotle's doctrines as his own. The student of Kant feels that Kant himself did not fully recognise the philosophic significance of many of his own positions. He retained much of the phraseology, and along with it not a little of the way of thinking, of the Leibnizo-Wolffian School, and would not have admitted the interpretation given to his doctrines by Fichte and Hegel. So too in Plato there is retained much Pythagorean phraseology belonging to a stage of thought beyond which he had really advanced, and he would certainly not have recognised the Aristotelian developments as his own. I am quite aware that this is a way of treating the history of philosophy which does not commend itself to a great many, especially the English, students of philosophy, but it seems to me the only way in which the history of philosophy—nay, in which any history becomes intelligible at all. Rousseau might not have recognised his own

work in the French revolution; and yet none the less it was, in certain of its aspects, only an attempt to translate his ideas into facts. Luther might have been horrified at the modern theology and philosophy of Germany; and yet they are the direct product of his revolt from ecclesiastical authority. No man, not even the greatest and wisest, can fully understand the significance of what he is doing.

Thus, while admitting and insisting that Aristotelianism is 'the truth,' or, in other words, gives the *philosophical* interpretation of Platonism, we must not suppose that Plato himself would have admitted it. We must distinguish between the Platonism of Aristotle and Platonism as it existed for the mind of Plato himself. Hence, however much we feel, with Hegel, that the mythical element, the picture-thinking, is not of the essence of Platonism, we must not go on to say, with Teichmüller, that Plato himself did not hold any of it at all. To say this is to imply that Plato had an exoteric and an esoteric philosophy, and that when he argued for the immortality of the soul he was deliberately deceiving his readers by 'a noble lie,' such as he allows his rulers to use towards the lower classes in the state. But surely such a 'deception' is quite foreign to Plato's spirit. No philosopher does his thinking more openly before the public. Because, as we have shown, the truth of the doctrine of Recollection is to be found in that theory of knowledge which presupposes an identity of Thought and Being, it does not follow that Plato himself did not figure to himself the soul as having existed previously to birth and as recovering again in this life some part of the knowledge it had possessed before. However conscious Plato was that such language, in terms of *time*, was *inadequate* to express the exact truth, the frequent use of such language must be taken as showing a habit of thinking and not merely an artificial mode of expression.

II.

Let us now consider separately the arguments for immortality in the *Phaedo*. It has been much debated how many they are.[1] They may be conveniently treated as *three* in number, though all really form steps in one great argument.

[1] It may be convenient to state briefly the distribution of the arguments according to Prof. Geddes and Mr. Archer-Hind respectively, their editions being those most likely to be in the hands of the English reader.

Geddes.	*Archer-Hind.*
I. ἀνταπόδοσις (70 C—72 D).	I.
II. ἀνάμνησις (72 E—76 D).	
III. The soul is simple, not composite in nature (78 B—80 E).	II.

1. There is an old tradition that souls come back from Hades and live again (cp. *Meno*, 81). This Plato explains and vindicates by the doctrine that opposites come from opposites (*οὐκ ἄλλοθεν ἢ ἐκ τῶν ἐναντίων τὰ ἐναντία*). Mr. Archer-Hind (p. 73) says that Plato appeals to the uniformity of nature and has seized on the principle of the conservation of energy, and "has applied to spirit the axiom which previous philosophers laid down for matter". Is not this misleading language? Plato knows nothing of "laws of nature" in the modern scientific sense: it is not a formula with which he works. He does not get the conservation of energy as a "natural law" and read it into "the spiritual world". The conservation of energy, if we can use the phrase at all to express a conception of Plato's, is to him a necessity of thought, a logical law, not a law of nature. *Omnia mutantur, nil interit* and *Ex nihilo nihil fit* were axioms arrived at from the logical impossibility of thinking either an absolute beginning or an absolute ending, not established like what we call laws of nature by a combination of hypothesis and experiment. And these axioms appear in Plato in the form: "If generation were in a straight line only, and there were no compensation (*εἰ μὴ ἀεὶ ἀνταποδιδοίη*, &c.) or circle in nature, no turn or return of elements into one another, then all things at last would have the same form and pass into the same state, and there would be no more generation of them" (72 A, B). We can easily see that this principle by itself does not prove the immortality of the soul in the sense in which the term is generally understood. It would be accepted by the Democritean atomist and would be more than satisfied by Aristotle's conception of nature attaining immortality in the species, though not in the individual (*De Anim.*, ii. 4). Yet, of course, if from other sources we can get any arguments for the indestructibility of the individual soul, this principle of the movement from life to death and death to life will fit in with them. This argument may perhaps be compared with Fechner's idea—not that the idea is peculiar to Fechner—that as the life (of the embryo) before birth is to the life in the body as it now is, so is this present life to that after death.[1] Yet there is a most noteworthy

Geddes.	*Archer-Hind.*
IV. Objection of Simmias, that the soul is a Harmony, refuted (85, 86, 91—95). Objection of Cebes, that the soul may outlast the body but not be immortal, refuted (86—88).	
V. The soul partakes in the idea of life, and therefore cannot perish (100 B—107 B).	III.

[1] G. T. Fechner, *On the Life after Death* (Engl. Transl. by Wernekke), ch. i.

and characteristic difference. Plato thinks of birth as an "eclipsing curse": he thinks of the soul as passing through *cycles* of existence. Fechner is thinking of a continuous *development*. The idea of a Cycle conditions all the thinking of Plato, and of Aristotle too, both in regard to the individual and in regard to society. We may indeed say that the conception of continuous progress is absent alike from their Ethics and their Politics.

This argument from the alternation of opposites is however not allowed to stand alone. It is at once supplemented by the doctrine of Recollection. Mr. Archer-Hind insists that these must be considered as making up together only one argument, *ἀνταπόδοσις* proving the existence of the soul, *ἀνάμνησις* its possession of intelligence (consciousness) apart from the present bodily life. We may note that Plato himself (73 A, *ὥστε καὶ ταύτῃ ἀθάνατον ἡ ψυχή τι ἔοικεν εἶναι*) seems to treat them as distinct arguments. But the question is not of much importance. In truth all the arguments lead up finally to the argument from the theory of ideas, and this reference to the doctrine of Recollection already brings in that theory. We have previously considered this doctrine of Recollection and seen that it necessarily implies only the presupposition in knowledge of an eternal element, *i.e.*, an element not dependent on temporal conditions: it implies the eternal character of thought, not the continued duration of the individual human person, although Plato himself, at least at some part of his life, may quite well have interpreted it in connexion with an actual belief in continued personal, or at least individual, existence.

2. The next argument is, that the soul being simple and not composite is indissoluble: it cannot perish by being decomposed. It may be supposed that this is the same argument which has been largely used since Plato's time and which is criticised by Kant[1]—*viz.*, that the soul is permanent because it is a simple substance. But the conception of the soul as 'substance' is an addition to Plato's view which we do not find in Plato himself.[2] If we are to compare this position of Plato's with any modern position, we might rather compare it with a view such as results from Kant's

[1] *Crit. of Pure Reason*, 'Transcend. Dial.,' book ii., "Refutation of the Argument of Mendelssohn for the Substantiality or Permanence of the Soul".

[2] It might indeed seem to receive countenance from the words in 92 D, *ὥσπερ αὐτῆς ἔστιν ἡ οὐσία ἔχουσα τὴν ἐπωνυμίαν τὴν τοῦ ὃ ἔστιν*, which appear to make absolute existence the substance of the soul. But if the words mean this, they stand in contradiction to all that is said elsewhere in Plato. And Schanz is probably justified in altering *αὐτῆς*, of the MSS., into *αὐτή*.

criticism, *viz.*, that the soul is the unity of self-consciousness. But in truth the conception of self-conscious subject is equally absent from Plato's psychology with the conception of thinking substance. Rather we should regard Plato as having taken the Pythagorean mathematical conception of Unity to explain the soul, using the Pythagorean conception as suggestion and starting-point for his theory of ideas. The soul which is invisible, he argues, is akin to (συγγενής) the unchanging and incomposite, the invisible world of ideas, not the changing and manifold world of sense. Thus the soul is likely to be at least more permanent than the body and nearly or altogether indissoluble.

There may be good ground for holding that the view of the soul as a substance conjoined with the body is very much due to the language of Plato's *Phaedo*, as ordinarily understood and popularised through the medium of Stoicism, which tended more and more to assimilate or adopt Platonic phraseology. It is a view which gained currency especially among materialistic Christians like Tertullian, who regarded soul and body as two substances or *things*, both material, though the soul might be of finer matter, which could be joined together and separated, externally and as it were mechanically[1]—a view which has naturally led to the question, *Where* is the soul? But Plato must not be made responsible for the crude dogmatism of unphilosophical writers who have been influenced directly or indirectly by his words. As we have seen, the soul's permanence of existence is not by him made absolute (as in the metaphysical-substance-theory which Kant attacked) but is dependent on its affinity to the ideas, to the divine. This being so, as already suggested, it would be less erroneous to say that he thinks of the soul's existence as a necessary condition of knowledge, though he rather puts it in the reverse way. Indeed he sometimes speaks as if the philosopher, the man who knows, who reflects and lives in the true world of ideas, had a better chance of life apart from the body than the ordinary man whose soul is sunk amid the sensible and changing (*Phaedo*, 80 E-81 E). The true life of knowledge is not dependent upon material things, and the soul which lives this true life can therefore exist independently of the body.

Teichmüller (in his book *Ueber die Unsterblichkeit der Seele*) applies to every theory about the soul what in appearance is

[1] Aristotle, *De An.* i., 3 fin., objects to the Pythagorean "tales" of transmigration, that they make *any* soul fit *any* body. But the "tales" as Plato gives them always insist at least on some connexion in character between the soul and body.

a very simple question: "Is the soul according to this view a substance or is it not? If it is not a substance, it is illogical to hold any doctrine of immortality. The Materialist makes soul a mere function of body; the Idealist regards it only as the subject of knowledge, and holds the eternity of thought but cannot hold the immortality of the soul." Let us ask what is meant by calling the soul a substance? *Substance* in its simplest meaning is nothing more than *that which has qualities, the permanent subject of which we can predicate attributes.* But probably most persons who use the word substance about the soul only mean by it *reality*. Primitive man did not regard soul as substance. Rather the body was thought of as the *real* self or person, the soul, spirit or ghost being only a sort of shadow or emanation given off by him. Because the dead and absent appeared in dreams, the appearance was supposed to be some emanation from the person. The ghost had a less real existence than the man while living; and there were ghosts or souls of other animals and even of things. We have good examples of this primitive 'Animism' in the Homeric poems. The slain warriors *themselves* are a prey to dogs and birds, while their spirits are sent to Hades.[1] With Plato this is completely changed. Socrates is asked how they shall bury him. "You cannot bury *me*. Only my body will remain. I shall go away" (*Phaedo*, 115). The spirits whom Odysseus visits have a very feeble and shadowy existence, not, as Plato puts it, a more real and true existence than men living on earth, so that the life of the wise man becomes "a practising of death" (*Phaedo*, 64 A). This Animism of course still survives in the co-existence of a belief that the ghosts of the dead flit about near graves and their old haunts (cp. *Phaedo*, 81 C, D; *Laws*, 865 D), along with the idea that their souls are in another world. The differentiation of the words 'soul' and 'ghost' (*ψυχῶν σκιοειδῆ φαντάσματα* in *Phaedo*, 81 D) helps to keep two distinct views alongside of one another. The Christian psychology, which distinguished 'spirit' (*πνεῦμα*) from 'soul' (*ψυχή*), was in the hands of the more philosophical writers parallel to the Greek distinction between 'reason' (*νοῦς*) and

[1] *Il.* i. 3, 4 : *πολλὰς δ' ἰφθίμους ψυχὰς Ἄϊδι προΐαψεν ἡρώων, αὐτοὺς δὲ ἑλώρια τεῦχε κύνεσσιν οἰωνοῖσί τε πᾶσι.*

xvi. 856, xxii. 362 :

ὣς ἄρα μιν εἰπόντα τέλος θανάτοιο κάλυψε. ψυχὴ δ' ἐκ ῥεθέων πταμένη Ἄϊδόσδε βεβήκει ὃν πότμον γοόωσα, λιποῦσ' ἀδροτῆτα καὶ ἥβην, τὸν καὶ τεθνειῶτα προσηύδα δῖος Ἀχιλλεύς.

'soul'; the adoption of 'spirit' rather than 'reason' for the highest element in the soul indicating the abandonment of Greek intellectualism and the preference of the ethical and emotional to the intellectual. But the Christian psychology allowed the old Animism to spring up again, and our word 'spirit' hovers between the meanings of the German '*Geist*' and the English 'ghost'.

Plato, then, does think of the soul as being that which is most real and permanent in a man, but he does not express this by making the soul a 'substance'. The category of substance, being applicable properly only to what we perceive in time and space, is an inadequate conception for soul, as Kant showed in fact, though he writes as if it were in a way a misfortune that we could not prove the soul to be a substance in relation to its experiences in the same sense in which in a physical body we distinguish the substance from the properties.[1] Self-conscious subject is a higher and better conception for soul; and if the soul is called a substance, it can only be this that is meant. Lotze applies the term 'substance' to the soul, but explains himself as only meaning by substance "everything which possesses the power of producing and experiencing effects, in so far as it possesses that power". Again he says: "The fact of the unity of consciousness is *eo ipso* at once the fact of the existence of a substance" (*Metaphysic*, pp. 426, 427, Engl. Transl.). Thus Lotze does not maintain that the soul is a substance, in the sense in which Kant denies that we can know it to be a substance, and according to which alone Teichmüller seems to think the soul's immortality can be logically held, but only in a sense with which there is nothing in Plato to conflict. Plato, as we have already said, has not this conception of self-consciousness to work with; but he considers the essential element in the soul to be its *knowing* rather than its merely existing. And so (if we are to yield to the inevitable temptation of interpreting him in terms of modern controversies) if he is not yet Kantian, he is at least free from the metaphysical assumption against whose validity Kant argued.

The argument which Socrates directs against the objection of Simmias that the soul is the Harmony of the body, and as such cannot outlast the destruction of the body, has been

[1] Kant argued that identity of self-consciousness need not imply identity of substance. Thus the same movement is transmitted through a series of elastic balls; the substances change, the movement is the same. And so conceivably the self-same consciousness might be transmitted through a series of substances. (Note on "Third Paralogism of Transcendental Psychology" in *first* edition.)

sometimes treated as a separate argument for the immortality of the soul (*e.g.*, by Ueberweg and Prof. Geddes).[1] This Mr. Archer-Hind denies; rightly, if we consider only the formal nature of the argument. But it contains the assertion of the priority and independence of the soul, and thus does really advance the general argument of the dialogue. (1) The doctrine of harmony is shown to be inconsistent with the already accepted doctrine of Recollection (91 C-92 D). A harmony can only come into existence after that which produced it. (2) A harmony is dependent upon the materials that produce it, and is more or less of a harmony according to their condition; whereas the soul as such (*i.e.*, in its ultimate essence, as we might say the mere I which is the condition of any knowledge) does not admit of degrees. The virtuous soul is not more a soul than the vicious, though it may be called more of a harmony (92 E-94 B). (3) The soul rules the body, whereas a harmony, as before said, is dependent on its materials (94 B-95 A). The harmony-theory is also criticised by Aristotle, in the *De Anima*, i. 4, who, like Plato, speaks of it as widely held. It is impossible for us to find out with whom the theory originated. It may, to begin with, have been nothing more than a poetical image popularly accepted. Plato's main argument against it is the first one —that it is inconsistent with the theory which alone explains knowledge. On this position the other two depend.

J. S. Mill (*Essays on Religion*, p. 197) considers this argument of Simmias to be that which a modern objector would naturally make to Plato's argument, *viz.*, "that thought and consciousness, though mentally distinguishable from the body, may not be a substance separable from it, but a result of it, standing in a relation to it like that of a tune to the musical instrument on which it is played".[2] We may compare Voltaire's question whether the song of the nightingale can live when the bird has been devoured by an eagle. It should be noticed that *ἁρμονία* means properly a *succession* of notes, and so is equivalent to our word 'tune' or 'air,' rather than to 'harmony'. This being so, does not the illustration of the lyre tell the other way? A tune certainly cannot exist apart from the notes of which it is composed. They

[1] Cp. Teichmüller (*Studien zur Geschichte der Begriffe*, p. 118), who puts the argument in the form: The ideal principle is prior to the becoming and not a product of it.

[2] Mr. J. M. Rigg in MIND 41, p. 89, says: "The modern analogue of the harmonic theory is the attempt made by biologists to identify the soul with a special form of that correspondence between organism and environment in which life is held to consist".

are, in Aristotelian phrase, the matter of which it is the form. But the same tune, *i.e.*, the same combination of notes may be played on many instruments; and so the analogy would not prove the mortality of the soul, unless the soul be, as in Aristotle's view, the form or realisation of the body. If the body be analogous to the notes of the tune, the soul perishes with the body; if the body be analogous to the musical instrument, it need not. It may seem strange that Plato should not have noticed this way of turning aside the objection. Perhaps the whole harmony-theory seemed to him to deny too much the essential unity of the soul.

3. We can now pass to the third great argument, to which all the others lead up, that which makes the question of the soul's immortality expressly and directly depend on the doctrine of Ideas. It is impossible here to go through the complicated and difficult details of the argument. The difficulties are partly matters of interpretation of language and must be left to the philologer; partly they depend on the whole problem raised by the different forms in which the theory of ideas appears in Plato. We are at a loss to know how far we may take as a guide the presentation of the theory in other dialogues.[1] The main argument in its briefest form is this: The soul partaking in, or manifesting in itself, the idea of life cannot partake in the opposite idea, that of death, just as fire which partakes in the idea of heat cannot admit the idea of cold, and as the abstract number three, which is odd, cannot admit the idea of even. Cold fire, even three, dead soul would imply cold heat, even odd, dead life, and so involve a contradiction in terms.

What, according to Plato, is the relation of the soul to the ideas? Teichmüller argues that, because the soul is not an idea, and because in Plato's system only the ideas really exist, therefore soul does not exist. That the particular soul does not exist in the same way as the ideas we may agree. But (1) it may be doubted whether Plato and his critic are using 'existence' (being) in the same sense. As Lotze has very well pointed out (*Logic*, Eng. Tr., p. 440), when Plato speaks of the ideas as τὰ ὄντως ὄντα he really means that they are alone *valid*, not that they are existent things; but the

[1] The questions of interpretation will be found most carefully discussed in Mr. Archer-Hind's edition. May I here, once for all, acknowledge the obligation under which every student of Plato must stand to him? The points of disagreement in this paper must be taken as presupposing this obligation. The latest important contribution to the study of the ideal theory has been made by another Cambridge Scholar, Mr. H. Jackson, in the *Journal of Philology*, vols. x.-xiii.

Greek language does not admit of a distinction between validity and being.[1] Plato's ideas are not to be thought of as equivalent to Leibniz's monads, though Leibniz himself strangely thought so (*Epist. ad Hanschium*, 1707, Ed. Erdmann, p. 445). Rather they are the equivalent in Plato to what we call laws of nature. The Idea of the Good is in Plato's system 'God'; and Leibniz makes God the monad of monads. But is not this just the final inconsistency in Leibniz's system? If we are to explain a universe of monads, God must be the totality and unity of the relations between the monads; but this is a reconciliation which Leibniz did not adopt. (2) The soul has not indeed the same absolute significance or value that the ideas have, but it has a significance or value which the composite man or animal has not. It is, as has already been argued, 'nearer to' or 'more akin to' the ideas, because it is what knows and so is ultimately of the same nature with what is known, *i.e.*, the ideas. The identity of the knowing and the known is thus the logical truth at the bottom of the ideal theory. as we have already seen in the special case of the doctrine of Recollection.

The soul not being an idea, may we say that there is an idea of the soul? We talk of souls as we talk of other classes or kinds of existences; so that, according to the view of the ideal theory which we have in the *Republic*, there ought to be an idea of the soul. Plato certainly never uses the phrase. But Mr. Archer-Hind thinks it necessary in the argument in the *Phaedo* to assume this "metaphysical monstrosity" as he calls it. "We have," he says, "the following terms; (1) the idea of life, (2) the idea of soul, which carries the idea of life to particular souls, (3) the particular soul, which vivifies the body, (4) the body in which is displayed this vivifying power." In the argument soul is treated of as parallel to the triad (the abstract three), and Plato does use the phrase *ἡ τῶν τριῶν ἰδέα* (104 D); so that there would seem no escape from this conclusion. But surely, if we are to argue from the view of the theory of ideas in the *Republic*, Plato does not place the abstract conceptions of mathematics on the same level with the ideas, but in an intermediate region between the particular things of sense and the ideal world. The Pythagorean doctrine of numbers served Plato as suggestion and starting-point for his theory of ideas; and the relation of abstract numbers to concrete numbered things

[1] When Aristotle says: *ὁ πᾶσι δοκεῖ τοῦτ' εἶναί φαμεν* (*Eth. Nic.* x. 2, § 4) he means that universal opinion has *worth* or *validity*, that there is in it (an element of) rationality, as in the parallel passage in *Eth. Nic.* vii. 13, § 6, *πάντα φύσει ἔχει τι θεῖον.*

serves as an illustration of the relation of ideas to things (cp. Arist., *Met.* i. 6). Might we suggest, therefore, that "the idea of three" is here not to be taken too literally? In any case the number 'three' is not an idea in the same sense or of the same dignity as the quality 'odd': and similarly soul belongs to a region intermediate between the idea (of life—the living) and the concrete living animal. We might then compare the position assigned to the world-soul in the *Timaeus* as "the mediatising principle between the Idea and the Phenomenon, the first form of the existence of the idea in multiplicity" (Zeller). Nothing is said about the world-soul in the *Phaedo*, but we are justified in expecting that Plato, even if the *Timaeus* represents a different stage of his thinking, should treat it analogously to the human soul.

The chief difficulty which meets us in Plato's theory of ideas is the relation of the ideas to one another. We feel that they ought to be all organically connected with one another and with the idea of the Good. But the science of dialectic which should do this exists for him only as a possible science, as an ideal. We are puzzled by his recognising idea of qualities, of concrete things in nature, of works of art all separately just as occasion requires; and we do not know exactly how the idea of 'the just' for instance stands related to the idea of 'man' or the idea of 'table' (I am referring only to the forms in which the theory appears within the limits of the *Republic*). Some of these we feel are more properly 'ideas' than others. This difficulty is partly due, doubtless, to the tentative and 'sceptical' character of Plato's philosophy; partly perhaps to the influence of the undogmatic and vague character of popular Greek polytheism. The relation of the various gods to one another and to the supreme god is left undetermined. Plato and Aristotle themselves talk indifferently of *τὸ θεῖον*, *ὁ θεός*, *οἱ θεοί*. Plato is anxious to prove that God is good and the author of good only (*Rep.* ii.): it seems to be a matter of indifference to him whether God is one or many. The *Timaeus* does indeed suggest a hierarchy of divine beings; but then the *Timaeus* stands by itself in its Pythagorean dogmatism. The result of the whole discussion in the *Phaedo* then amounts to this: that the particular concrete man (composed of body and soul) passes, as we saw, from life to death and death to life (cp. 70 C, 103 A-C); the soul which makes him live is always living. It cannot admit death, and is therefore indestructible. This result may indeed appear to be a purely verbal statement: "Anima est animans"; but its signifi-

cance comes from the connexion established between the soul and the ideas.

Neither in the *Phaedrus* nor in the *Republic* do the *arguments* used for immortality turn on the theory of ideas. The argument in the *Phaedrus*, which is put forward as the prominent argument by Cicero (in his *Tusc. Disp.*, i. 23.—also translated by him in *Rep.*, vi. 25), may however be connected with the concluding argument of the *Phaedo*. "The soul is immortal because it is self-moving" (*Phaedr.*, 245 C) may be considered as only one form of stating the argument from the idea of life. If we look for a modern parallel, we may perhaps find it in the argument from freedom (criticised by Lotze, *Met.*, Engl. Transl., p. 420)—an argument which of itself will not prove a personal or even an individual immortality. Only 'Thought' is free, and even Thought in its use by us is conditioned by material phenomena.

The argument in *Republic*, x.[1] is that nothing can be destroyed except by its own proper evil. The body is destroyed by its proper evil, disease. The evil of the soul is wickedness; but men do not die simply by being wicked, else wickedness would be a less terrible thing than it is, and there would be no need of the executioner. Thus the soul, not being destroyed by its own evil, cannot be destroyed at all. The argument is so far the converse of the argument in the *Phaedo*. There it is argued that the soul, because not admitting death, is indestructible: here that the soul, because not in fact destroyed, does not admit of death. By itself it seems a very feeble argument. It would only prove that in this life the soul is not destroyed; and though it might suggest a future life, it would not prove immortality, because the destruction of the soul by wickedness might go on after death. Indeed from the position in *Rep.* i., that evil is a principle of weakness and dissolution, it might be argued that evil must in course of time destroy the soul. It has been ingeniously suggested by a friend of mine that it might be retorted to Plato that if sin does not destroy the soul, sin cannot be the evil of the soul but must be proper and natural to it. On the other hand, we find a German writer, Julius Müller (quoted by Prof. Geddes, p. 26), using a parallel argument to Plato's: "So indestructible is the Personal Individual, that it is able to place itself through that which

[1] Teichmüller (pp. 121, 127) considers *Rep.* 611 C and 612 an argument: "The ideal principle is divine"; also *Rep.* 611 A-C: "The becoming remains always identical in quantity". Surely these are not "Beweise"?

is wicked in the most enduring contradiction with itself, without at the same time compromising its existence. That the human creature can surrender itself to that which is wicked with full determination, without annihilating itself, is in fact one of the most powerful and tremendous witnesses for the Indestructibility of Personal Existence." But here we see that a conception of the self-conscious Person is assumed before the argument from wickedness is applied; and so it might be said for Plato that, as he assumes the necessary connexion between the soul and the eternal ideas, the fact that its own evil does not destroy the soul is a confirmation of its immortality. Yet it is striking and characteristic of his way of working that the arguments in the *Phaedrus*, *Phaedo* and *Republic*, which we may fairly suppose all to belong to the same general stage of his philosophy, are stated in complete independence of one another.

The special interest of the *Republic* in connexion with our question is that here Plato comes most distinctly face to face with the ethical significance of the conception of immortality; and it is therefore perhaps fitting that the argument should be rather ethical than metaphysical. Plato does not use at all the ethical argument as we have it in Kant, an argument which is so far the converse of Plato's argument from Recollection. Plato's argument might become: We have ideals by which we judge the imperfections of our present life; therefore we must have known them in a previous state. Kant's argument may be put in the form: We have ideals which we cannot realise in this present life; therefore we must exist in a future state. And it is to be observed that Plato's argument turns on the character of *knowledge* even in moral matters, Kant's on the nature of *conduct*.

In the early part of the *Republic* Plato is compelled to protest against the demoralising effect of popular and Orphic ideas about a future life, and appears therefore to reject altogether the ordinary beliefs about rewards and punishments in another world. But having shown that justice in itself, irrespective of consequences in this world or the next, is better than injustice, he now feels able to restore the element of truth, which he recognises in these old traditions, in a way which, so far from being demoralising, shall be morally educative. It would be misunderstanding him however to suppose that either here or in the *Phaedo* he considers the moral value of the doctrine an argument for its truth. Plato is perfectly true to the Greek faith in Reason: having established the truth of the doctrine, as he thinks, independently, on intellectual grounds, he is ready to accept its moral value.

Thus the visions of a future life at the end of the *Republic* and of the *Phaedo* lead to the practical lesson of the immense importance of knowledge and conduct in this. Life is thus regarded, not as a time of probation to determine once for all the eternal destiny of man, but as a time of education to prepare him for the life or lives to come—an idea which has nowhere been so forcibly impressed in modern times as in some of Browning's poems (*e.g.*, "Apparent Failure," "Evelyn Hope," "Christina": not so distinctly in the argumentative "La Saisiaz," where the conception of probation is made use of, though not in the ordinary dogmatic way).

III.

In what sense does Plato hold immortality? What part of the soul is immortal? To these questions it is not easy to find a consistent or uniform answer in Plato's dialogues. In the *Phaedrus* the soul is imaged as a charioteer driving two horses. This image we may fairly interpret in accordance with the psychology of the *Republic* as representing the three elements of Reason, Spirit (*τὸ θυμοειδές*) and Desire. All these elements, then, are in the *Phaedrus* spoken of as belonging to the immortal soul and as existing apart from the body.

In the *Timaeus* the different parts of the soul are localised in different parts of the body. In the *Republic* (ix. 588) we have the soul described as a complex creature—man, lion, hydra, all enclosed in the form of a man. [Can this be taken as a recognition that the Reason or highest element is the true self?—as Aristotle says: *δόξειεν ἂν τὸ νοοῦν ἕκαστος εἶναι* (*Eth. Nic.* ix. 4, § 4)—or does it only mean that every individual man, apparently one, is really complex?] In *Rep.* 611 C, D, the true and immortal soul is said to be ordinarily crusted over and concealed by impurities. And so in the *Phaedo* the soul of the philosopher is spoken of as free from passion and desire. Again, Plato seems to waver between the view of the *Phaedrus* and *Republic*, that the soul of the good man is that in which the lower elements are under control, and the more ascetic view of the *Phaedo*, that the good man is free from passions and desires altogether. Of course it is obvious that all turns on what is meant by desire. Plato often tends to regard desire as an altogether irrational element, though he sometimes sees that Reason in order to act necessarily implies desire (or at least the element of *θυμός* or impulse). In the *Phaedo* the desires are indeed distinctly ascribed to the body, whereas in the *Philebus* (35 C)

they are ascribed to the soul. These apparent inconsistencies arise very much from our tending to understand Plato too literally when he speaks of parts of the soul. Indeed it should be noted that he more often says εἴδη or γένη ('forms' or 'kinds,' 'aspects' as we might say) than μέρη. We may reconcile all these passages more or less as follows:—The soul in its essence is Reason (νοῦς). By admixture with the body it shows itself in the forms of passion and desire, which we may therefore ascribe to the soul or the body according as we are thinking of the soul embodied or distinct from the body. When the soul in a future life is spoken of as being punished, it must be the soul as having desires. The soul escapes, *i.e.*, does not need punishment, just in so far as it is free from desire (appetite, ἐπιθυμίαι). Only the soul of the tyrant which is altogether given over to desire is punished for ever. (This is a characteristically Hellenic touch, and need not be rejected as by Mr. Archer-Hind. It is not more fanciful than any other part of the myths in the *Gorgias* and *Republic*. The tyrant is Plato's ideally bad man opposed to the ideally good man, the philosopher.)

If then it is asked whether Plato thinks bodily existence necessary for the particular human soul, we can only answer by distinguishing the meanings of the words 'body' and 'soul'. If by body be meant, as is ordinarily meant, our body as it exists now, then Plato does hold that the soul can exist apart from the body. If by soul be meant the soul as we know it with its passions and desires, then evidently some sort of body must be supposed for it, else there would be no passions and desires. If we ask whether Plato believes in a personal immortality, we should need to ask ourselves farther what we mean by personality; and we should note that it is not a conception which has become at all prominent in ancient ethics. We might perhaps expect that a consistent Platonist would have held that, just in so far as the soul becomes purified from passion and desire, it loses its materiality, its element of otherness (θάτερον), and thus becomes reunited to its divine source. This is an interpretation which the mythical element in Plato might suggest. Yet Plato himself argues (in *Rep.* x. 611 A) that the number of the souls remains always the same; and the greatest of the Neo-Platonists, Plotinus, holds explicitly that there exists a real plurality of souls, the highest being the soul of the world, of which the others are not mere parts. Was this a position retained out of respect for the authority of the divine Plato, or was it rather from an intuition that the Universal apart from individual manifestation is a logical abstraction?

Personality, however, is something more than mere individual existence. The person in the ethical sense, the subject of rights and duties, must be the member of an organised society. And it might be argued that it is only in so far as any one ceases to be a mere individual, that he becomes in the true sense a person, only in so far as he identifies himself with something wider and higher than self. In his theory of ethics, as expounded in the *Republic*, Plato sees this fully. It is not because he makes his citizens merge their lives in the life of the community that his ethics is inadequate, but because his conception of the community is too abstract and too much limited by the prepossessions of aristocratic Hellenism. In his visions of another world, so far from his neglecting the value of the individual, it might even be contended that he exaggerates the significance of the mere individual existence so much in his doctrine of metempsychosis as to neglect the greater ethical significance of the person, which, as just said, depends on a conception of society. He speaks indeed of the good man in the evil state as being the citizen of a heavenly city; but, in his accounts of the life free from the trammels of the body, there is no hint of perfected community. His ideal in the *Phaedo*, and even in the *Republic*, is only an ideal for the philosophic few that escape from among the multitude who are "unworthy of education". May we not say, though it may sound paradoxical, that Plato has no adequate conception of personality just because his conception of the soul is too individualistic?

And yet individualism is not a fair charge to bring against Plato's doctrine of the soul. As we have seen, the soul is not conceived of by him as a self-subsistent monad or atom. The soul is dependent for its life and its immortality on the eternal ideas, ultimately therefore on the Idea of the Good. So that, as Prof. Jowett has said (*Plato*, vol. i. 420), his ultimate argument is equivalent to this: "If God exists, then the soul exists after death". That is, Plato himself, like most of the older Christian theologians,[1] and unlike many who have supposed themselves Platonists, did not hold that the soul *per se* was immortal, but only because and in so far as it partakes in the divine nature and has the divine nature manifested in it. Immortality to him also was a hope (ἡ ἔλπις μεγάλη, *Phaedo* 114 C), not a dogma.

[1] I have advisedly not complicated this statement by any reference to the dogma of the resurrection, which, from the point of view of philosophy, may be regarded as the assertion of the continued existence of human personality *plus* the assertion that such personality will be connected with an organism of some sort—analogous to the present body according to popular belief, altogether different from it according to St. Paul (I. *Cor.* xv. 35-50).

IV.—RESEARCH.

THE TIME TAKEN UP BY CEREBRAL OPERATIONS.[1]

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III. *The Perception-Time.*

We have found the simple reaction-time on daylight for B and C to be about 150σ, and I have given my reasons for assuming that a perception-time is not included in this interval. The perception-time can be defined as the interval between sensation and perception (or between indefinite and definite perception, apperception), that is, the time passing after the impression has reached consciousness before it is distinguished. The impression is perhaps in the back-ground of consciousness when it reaches the optic thalami; before it is in the centre of consciousness it must probably travel to the cortex of the cerebrum and excite there changes corresponding to its nature. The method used by Wundt[2] to determine this time is to let the subject react as quickly as possible in one series of experiments, and in a second series not to react until he has distinguished the impression, the difference of the times in the two series giving the perception-time for the impression. I have not been able myself to get results by this method; I apparently either distinguished the impression and made the motion simultaneously, or if I tried to avoid this by waiting until I had formed a distinct impression before I began to make the motion, I added to the simple reaction, not only a perception, but also a volition. The method for determining the perception-time suggested by Donders[3] and since used by a number of others, is to let the motion depend on the nature of the stimulus. It has been thought by Donders, v. Kries and Auerbach and others, that if the subject reacts on one of two impressions and makes no motion when the other occurs, only a perception has been added to the simple reaction. This is however not the case, it being necessary after the impression has been distinguished to decide between making a motion and not making it. This question, which has been much discussed, becomes quite simple if we consider the cerebral operations that probably take place. I assume that the changes do not penetrate into the cortex at all when a simple reaction is made.

[1] Continued from Mind 42, pp. 220-42.

[2] *Physiol. Psych.*, ii., 247 ff.; *Phil. Studien.*, i., 25 ff.

[3] De Jaager, *De physiologische Tijd Bij psychische Processen*, Utrecht, 1865; Donders, *Archiv f. Anat. u. Physiol.*, 1868.

When, however, lights of two different colours (say red and blue) are used, and the subject may only lift his hand if the light is blue, the motor impulse cannot be sent to the hand until the subject knows that the light is blue. The nervous impulse must therefore probably travel from the thalami to the cortex and excite changes there, causing in consciousness the sensation or perception of a blue light; this gives a perception-time. In the cortex after the light has been distinguished a nervous impulse must be prepared and sent to the motor centre discharging a motor impulse there held in readiness; this gives a will-time. I do not think it is possible to add a perception to the reaction without also adding a will-act. We can however change the nature of the perception without altering the will-time, and thus investigate with considerable thoroughness the length of the perception-time.

The object most quickly perceived through the sense of sight is a simple light. In order to investigate the time required I took two cards, one entirely black, the other having on the black a white surface. One of the cards, the observer not knowing which, was placed by the experimenter in the springs of the gravity-chronometer, and the clockwork of the chronoscope was set in motion. The observer fixated the grey spot on the screen immediately before the centre of the white surface (supposing this card to be there), and with his left hand broke an electric current and let the screen fall. The card appeared at the point fixated, and at this same instant the current controlling the chronoscope was closed. The observer either saw nothing, or at the point fixated a white surface. If the light appeared he lifted his hand as quickly as possible, if there was no light he did not let go the key, and the hands of the chronoscope ran on until the clockwork was stopped by the experimenter. Twenty-six experiments were made in a series, the white light occurring thirteen times. Determinations were only made when the light occurred, so the averages in this section are from thirteen reactions (in the corrected series from ten). It will be seen that, as the observer tries to make the reaction as quickly as possible, he may lift his hand when the light is not present. If this happens often the times measured are not correct, but too short, since we may assume that the observer lifts his hand as often when the white light is present before he has seen it, as he makes the motion when no light comes. We must however expect such a false reaction occasionally to occur, otherwise we might assume that the reaction is not made in the minimum time when the light is present. In these experiments such false reactions scarcely happened except when the observer was disturbed, or when the impressions to be distinguished were similar (E from F, for example). In the first case the average is not seriously affected, as the reactions are as apt to be unduly retarded as unduly hurried. In the second case false reactions lead us to suppose that some of the reactions on the stimulus are too short. The method I have introduced of giving

a corrected average eliminates all premature reactions. I give in the Tables the number of false reactions made;[1] it would have been well if v. Kries and Auerbach, Merkel and others had done the same.

We can now examine the Table giving the time needed to perceive and react on a white surface.

TABLE XII.

	B				C			
	R	V	R′	V′	R	V	R′	V′
14. I.	203	8	203	6	239	14	246	7
19	217	18	213	12	219	13	217	10
20	222	22	222	15	226	13	226	9
31	234	35	217	11	238	13	241	10
2. II.	219	21	214	13	215	16	217	11
	214	30	206	18	216	12	219	7
3	207	20	203	7	256	20	254	10
25. III.	239	28	234	21	250	19	253	15
	212	19	205	6	263	22	259	9
31	215	34	205	15	244	16	248	9
	189	13	186	6	245	10	242	7
	191	16	189	7	251	11	252	5
	183	12	185	8	246	17	242	12
2. VII.	213	13	212	7	262	7	262	4
4	209	13	210	8	251	11	251	6
A.	211	20	207	11	241	14	242	9

The simple reaction-time for B and C is about 150σ, therefore (on our hypothesis as to the nature of the cerebral operations, and assuming, though not without hesitation, that the corresponding physiological processes take up the same time as in the simple reaction) the time needed for the nervous impulse to travel from the thalami to the centre for sight in the cortex and excite the cells there so as to call forth the sensation of a light, and for a will-impulse to be prepared there and sent thence to the motor centre, was for B 61, for C 95σ. We may suppose that the time of the centripetal and centrifugal progress through the brain is about the same, and that the time used in the cortex is about equally divided between the perception of the light and the preparation of the motor impulse; at all events the whole time is so short that, if we divide it equally between the processes of perception and volition, the error cannot be great. We therefore set the perception-time for light, where the nature of the light need

[1] After "false," the entire number made during the series given in the column under which it stands.

not be distinguished, at 30σ for B, 50 for C, and the will-time in these and similar experiments at the same.

The reaction was made with the speech-organs in quite the same manner. When the white surface was seen the observer said ' Weiss ' and the hands of the chronoscope were stopped by means of the lip-key or sound-key. When no white surface was present the observer said nothing, and the hands ran on until the experimenter stopped the clockwork.

Table XIII.

	Sound-key.				Lip-key.			
	B		C		B		C	
	R	R′	R	R′	R	R′	R	R′
3. IV.....	246	241	282	281	236	241	276	275
4.....	255	247	302	308	241	246	281	276
5.....	234	237	274	268	233	235	256	250
	247	244	264	264	243	248	263	263
7.....	248	246	274	268	244	245	256	256
A.....	246	243	279	278	239	243	266	264
AV.....	20	11	18	12	14	9	18	12

We have seen that the motor-time is longer when a simple reaction is made with the speech-organs than when it is made with the hand. There is no reason why the perception and will-time found by subtracting the simple reaction-time (Table III.) from the time here measured should not be the same as when the reaction was made with the hand. If we average together the determinations with the sound-key and lip-key we get 65σ for B, 100 for C, which agrees very well with the determinations made with the hand.

If instead of two black cards on one of which there is a white surface, we take two white cards on one of which there is a black surface, and let the observer react only when the black is present, the conditions are substantially as before; the perception may require slightly longer, the will-time is probably the same. The results of such experiments are given in Table XIV.

If, instead of black, we place a colour on the white card, the perception becomes slightly more difficult; it is not quite so easy to see that something is there when it is yellow as when it is black, the will-time however presumedly remains the same. In one series of experiments (to the left in Table XV.) only one colour was used at a time, in a second series (right in Table

XV.) ten colours, the observer not knowing which was to come, but not needing to distinguish it before making the motion.

TABLE XIV.

	B				C			
	R	V	R′	V′	R	V	R′	V′
6. I.....	250	20	253	15	236	21	233	16
14.....	227	19	226	7	236	13	234	10
19.....	245	21	249	13	231	14	230	8
20.....	215	20	212	14	244	12	243	7
31.....	227	10	227	7	246	21	241	13
A.....	233	18	233	11	239	16	236	11

TABLE XV.

		B		C			B		C	
		R	R′	R	R′		R	R′	R	R′
Orange.....	22. XII.	291	296	258	261	22. XII.	289	293	245	237
Violet.....		262	269	251	255		260	254	259	263
Black.....		250	253	236	233		263	255	250	253
Pink.....	6. I.....	268	263	270	266	6. I.....	238	242	245	240
Brown.....	7.....	295	290	267	263	7.....	278	282	241	244
Gray.....	9.....	291	280	267	265	9.....	234	237	276	277
Red.....	10.....	277	282	264	265	2. II.....	230	230	232	229
Blue.....		265	263	284	279		219	223	242	237
Green.....		262	264	268	268		229	219	245	244
Yellow.....		264	262	280	286		230	228	254	257
A.....		272	272	264	264		247	246	249	248
AV.....		20	13	18	13		25	17	24	17
False.....		1		0			0		2	

It thus takes a little longer to recognise the presence of a colour (even though the colour need not be distinguished) than of a white light. It is to be noticed that B's times became shorter in 1885 than they were in 1884.

We next determine the perception-time when it is necessary to distinguish the colour. Two cases were considered; in one the colours were taken in pairs, and one colour was distinguished

from the other; in the second each colour was distinguished from ten colours. With blue and red electric lights (the above-mentioned Puluj's tube seen through coloured glasses) I got as perception- and will-time 75σ for B, 109 for C.[1] In most of my experiments however, with aid of the gravity-chronometer, I used daylight reflected from coloured surfaces, these exciting the processes with which our brain is occupied in our daily life. Red and blue and green and yellow were taken in pairs, the coloured surface being 3 × 30 mm. The numbers in Table XVI. give the average of six series.

TABLE XVI.

		B				C			
		R	V	R′	V′	R	V	R′	V′
27. XI.-2. XII.	Red....	278	22	272	11	322	40	324	26
	Blue...	287	19	280	17	291	24	288	16
I.-5. XII.....	Green..	268	26	265	18	313	32	312	21
	Yellow	276	26	273	16	297	31	300	20
	A.....	277	23	272	15	306	32	306	21
	AV....	2				8			

Ten colours were further taken in pairs, as indicated in Table XVII., and the time required to distinguish the one from the other determined.

If we average together the results given in Tables XVI. and

[1] These are the only experiments described in this section which had been previously made; Donders (*Archiv f. Anat. u. Physiol.*, 1868) found the time to be 184σ, Wundt (*Physiol. Psych.*, 11, 251) 210 to 250σ, v. Kries and Auerbach, working under the direction of Helmholtz (*Archiv f. Anat. u. Physiol.*, 1877), 12 and 34σ. I cannot accept the results reached by these latter experimenters. The times seem to be too short to be correct. I do not know where the error lies, the experiments having apparently been made with great care, but the simple reactions are very long, the reactions with perception and volition very short. The latter may have been made unduly short through the frequent occurrence of premature reactions (the number of false reactions is not given); at all events I consider their method of calculating the averages dangerous, they ignoring what reactions they saw fit. They do not give the number of measurements made in the series, but in the model series given in the appendix, we find that in one 22 reactions were used, in one on the perception of light only 9; we may therefore assume that in the latter series over half of the reactions were ignored. If the mean variation of the reactions used in this series be calculated, it will be found to be 6 (smaller, I imagine, than the mean error of the recording apparatus); the mean variation of the corresponding series of simple reactions (from which determinations had also been omitted) is 12σ. When averages are made up in this way any results desired can be obtained.

TABLE XVII.

		B				C			
		R	V	R′	V′	R	V	R′	V′
22. XII.....	Orange	308	21	309	11	316	47	299	21
	Violet	258	23	262	15	289	16	297	8
	Black	267	35	262	26	278	16	275	9
6. I.....	Pink...	288	19	284	14	302	26	303	18
7.....	Brown.	308	20	294	15	340	31	323	16
9.....	Gray...	283	12	287	6	397	80	367	31
10.....	Red....	278	22	272	11	322	40	324	26
	Blue...	287	19	280	17	291	24	228	26
	Green..	268	26	265	18	313	32	312	21
	Yellow	276	27	273	16	297	31	300	20
	A.....	282	22	279	15	314	34	303	20
	False...	1				5			

XVII., and subtract the reaction-time and supposed will-time, we find that it took B 100, C 110σ, to distinguish one colour from another.

In the series of experiments next to be given, I determine the time it takes to distinguish a colour from nine others, that is the real perception-time for a colour. The results of ten series in which the motion was made with the hand, and of five in which it was made with the speech-organs, are given in Table XVIII.

This gives as the time needed to distinguish a colour 105σ for B, 117 for C; respectively 5 and 7σ longer than it took to distinguish one colour from another, and 26 and 41σ longer than it took to see that a colour was present when it was not necessary to distinguish it.

The results given in Table XVIII. (where the reaction was made with the hand) were obtained at the beginning of the investigation; the determinations were repeated after four months of constant practice, and again after a pause of three months, the results being given in Table XIX.

Practice therefore shortened the perception- and will-times about 30σ for B and 20 for C, and this decrease in the length of the times was not lost by an interruption in the practice.

With the same methods I found the time it takes to see or distinguish a letter. I tried in my experiments to determine the time taken up by those operations which are constantly going on in the brain; the letters chosen therefore were such as we usually have to read (of the size in which this is printed). The time for larger letters is somewhat shorter. In the first experiments it was not necessary to distinguish the letter, only to know that a letter was present; the conditions were consequently the same as in the first experiments (Table XV.) on colours.

TABLE XVIII.

		B				C			
		R	V	R′	V′	R	V	R′	V′
		HAND.							
17. XII.....	Red....	317	19	310	10	341	31	340	20
	Green..	298	19	291	10	330	31	338	22
	Gray...	302	29	295	20	316	33	319	22
18.....	Blue...	289	28	276	9	316	7	315	3
	Yellow	260	12	261	9	317	24	310	14
	Black..	283	22	284	14	289	15	293	9
19.....	Orange	309	51	290	23	285	20	279	12
	Violet..	302	16	299	11	312	34	308	24
	Brown.	318	12	314	8	313	30	313	18
	Pink...	293	30	282	12	312	22	305	12
	A.....	297	24	290	13	313	25	312	16
	False..	1				4			
		SOUND-KEY.							
17. II.....	Red....	306	35	297	18	359	25	360	19
19.....	Green..	293	11	289	7	360	12	364	7
21.....	Black..	286	34	279	17	306	16	311	11
24.....	Violet..	271	30	265	22	309	20	304	14
26.....	Brown.	296	18	291	11	359	46	347	32
	A.....	290	26	284	15	339	24	337	17

TABLE XIX.

		B		C			B		C	
		R	R′	R	R′		R	R′	R	R′
Red.....	4. IV....	244	237	294	287	2. VII...	283	267	292	286
Green.....		247	239	311	309	4.....	247	252	277	278
Gray.....	7.....	270	258	283	279	31.....	264	257	325	314
Blue.....		246	246	273	275		253	257	286	279
Yellow.....	8.....	290	249	304	302		245	245	267	264
A.....		259	246	293	290		258	256	289	284
AV.....		35	13	16	10		30	17	24	15
False.....		5		2			0		0	

TABLE XX.

	B				C			
	R	V	R′	V′	R	V	R′	V′
3. II.....	261	31	260	18	268	12	266	11
27. III.....	234	21	228	12	235	23	229	11
1. IV.....	205	37	194	23	261	32	255	25
	230	38	220	25	251	24	255	19
	206	18	208	6	277	23	281	16
A.....	227	29	222	17	258	23	257	16

It therefore (making the same assumptions as above) took B 47, C 58σ, to see that a small object was on a white surface.

The next case to be given is where it was necessary to distinguish one of two letters from the other, A and Z being taken. The averages given are taken from six series.

TABLE XXI.

		B				C			
		R	V	R′	V′	R	V	R′	V′
4.—10. XII.....	A	315	26	319	16	327	31	323	18
	Z.....	330	31	325	21	348	29	348	21
	A.....	322	28	322	18	337	30	335	19
	False..	3				5			

It thus took B 142, C 137σ, to distinguish one letter from another, respectively 45 and 31σ longer than to distinguish one colour from another.

We now come to consider the time needed to distinguish one letter from all the others; that is the time it takes to see a letter. This is a process with which our brain is constantly busy; the time taken up by it is therefore of special interest. If for example the time is different for the several letters, it is a matter of the greatest practical importance, for those letters which it takes the longest to see might be so modified as to shorten the time. If it takes 20σ longer to see E than it would to see a symbol that might be taken in its place, say Δ, it is startling if we calculate how much time is being wasted and how much unnecessary strain is being put on eye and brain. I have published[1] extended series

[1] *Phil. Studien*, ii. 4; *Brain*, No. 31.

of experiments, determining the time the light reflected from a printed letter must work on the retina in order that it may be possible to see the letter. These experiments show that there is a great difference in the legibility of the several letters; out of 270 trials W was read correctly 241, E only 63 times. In this case the whole time was short, 1 to $1{\cdot}5\sigma$, and the difference in the time for the several letters correspondingly small. When however we determine the entire time needed to recognise the letter, we may expect to find the time considerably shorter for a simple and distinct symbol than for one complicated or easily confused with others, just as the time is shorter for a colour than for a letter.[1] The speech-organs as well as the hand were used in these experiments. Here however a slight complication is added, as we cannot be sure that a difference in the time for the several letters is to be referred only to the perception-time, it being possible that the time needed to name the several letters or to register the different motions may be different. This difference in time can however only be very small, as the observer knew what letter he had to name, so there was no choice between different motions, as in the experiments to be considered in the next section of this paper. Tables XXII.-XXIV. (placed, with others, at the end of this paper) give the results obtained at different times, the motion being made both with the hand and the speech-organs.

A shortening in the time through practice will be noticed in these Tables; if we take Table XXIII., which contains the most determinations and times representing about the average of the three Tables, we find the perception-time for a capital letter of the size in which this is printed to be 119σ for B, 116 for C. The Tables contain the results of a great many experiments, but not enough to determine finally the time for the several letters; if however the four series made with the hand on E and M are averaged together, we find that it took B 19, C 22σ longer to see E than to see M. The order for the five letters on which four series were made is M A Z B E, which (except the position of Z) agrees with the order of legibility established in the paper referred to.

Similar determinations were made with the small letters, the results being given in Table XXV. It seems from this Table

[1] I have not been able to determine accurately and finally the perception-time for different alphabets and for the several letters. In these experiments the different letters cannot well be used in the same series, and further in half the cases no measurement is made. As the difference in the times is small and the variation of the series not inconsiderable, a large number of experiments must be made before the difference in the time for the several letters can be determined with certainty. This is however not only a subject of scientific interest, but also of great practical importance; it is to be hoped that it will be thoroughly investigated by independent experimenters.

that the perception-time is about the same for the large and small letters, which agrees with experiments I have made by an entirely different method (see MIND 41).

We now come to consider the time it takes to see a word, a process with which the brain is constantly occupied. Twenty-six words were taken, and when the expected one was seen the observer lifted his hand. The perception-time so determined is the time needed to distinguish the word from the other twenty-five; the time is slightly longer when it is necessary to distinguish words from others very similar in form; for example, hand from band. Indeed we must remember that perception is not a sharply defined process. As I have shown, we see a letter before we see what letter it is; in like manner a further time passes before we see the letter in all its details, that it is not perfectly printed, for example. The perception-time for a painting by Raphael is indefinitely long. The results of experiments with English and German words are given in the Tables XXVI.-VII.

The Tables give us a perception-time for short English words B 132, C 141σ; for short German words B 118, C 150σ; for long English words B 154, C 158σ. The time was therefore slightly shorter (B 22, C 17) for a short than for a long word, and for a word in the native than in a foreign language (B 14, C 9). It will be noticed that the perception-time is only slightly longer for a word than for a single letter; we do not therefore perceive separately the letters of which a word is composed, but the word as a whole. The application of this to teaching children to read is evident; I have already in connexion with other experiments called attention to it.

The only other perception-time we have to consider is for a picture. It takes, we may suppose, about the same time to recognise the picture of a tree as it takes to see the tree itself; this is consequently a process nearly always going on in the brain. I had carefully drawn twenty-six pictures of common objects, tree, hand, ship, etc., about one square cm. in size, the method of determining the perception-time being as before.

We thus find that the perception-time for a picture, and we may assume for the objects we are continually seeing in our daily life, was 96σ for B, 117 for C, about the same as for a colour and shorter than for a letter or word.

(To be concluded.)

TABLES XXII.-XXVIII.

TABLE XXII.

		B				C			
		R	V	R′	V′	R	V	R′	V′
		HAND.							
11. XII.	B	358	25	354	18	342	28	346	17
12.	Z	345	24	350	18	370	33	353	20
	A	327	31	314	14	337	22	342	16
16.	M	338	36	345	20	329	15	324	7
	E	360	31	345	9	343	28	326	9
17.	S	333	22	326	11	341	25	338	17
	P	339	24	332	14	329	32	318	18
	T	330	29	320	16	323	30	330	18
18.	O	293	19	297	11	302	25	301	18
	L	338	15	339	10	350	37	333	16
	A	336	26	332	14	337	27	331	16
	False.	5				4			
		SOUND-KEY.							
17. II.	A	330	27	337	17	406	16	401	11
19.	M	336	36	332	30	410	29	412	17
21.	E	308	36	310	22	359	35	354	28
24.	P	311	22	307	13	321	13	325	8
26.	O	303	21	307	16	380	33	372	27
	A	318	28	319	20	375	25	373	18
	False.	1				1			

Table XXIII.

	Hand.					Lip-key.				
		B		C			B		C	
		R	R′	R	R′		R	R′	R	R′
A	13. I.	309	312	323	328	15. I.	288	295	338	332
B	12.	307	311	353	350	13.	348	353	362	363
C	17.	304	306	319	322	17.	307	310	333	325
D		342	309	332	341		320	324	346	354
E	14.	328	334	341	345	15.	333	345	340	330
F	17.	322	324	358	344	20.	307	310	317	321
G		326	321	331	327		309	308	311	309
H	19.	323	320	320	317		305	308	338	333
I		294	293	295	301		271	275	296	290
J		329	326	299	288	21.	342	338	330	335
K		330	335	305	297		334	334	315	314
L	14.	296	304	302	299	29.	320	302	357	353
M	13.	311	316	320	322	15.	342	330	373	366
N	20.	318	317	333	330	21.	318	321	323	328
O	14.	263	266	292	288	13.	315	319	355	352
P		288	284	337	326	29.	321	324	338	339
Q	20.	317	315	315	319	21.	312	314	312	302
R		311	313	322	317		334	340	322	315
S	14.	285	281	327	332	15.	318	325	313	313
T		319	295	310	305	29.	318	315	366	363
U	20.	311	298	329	331	24.	320	320	335	331
V	22.	322	330	334	330		324	327	333	338
W		278	283	338	332		312	314	343	345
X		315	297	349	341		292	297	362	366
Y		303	307	341	337		318	313	339	339
Z	12.	323	319	347	345	13.	350	343	331	324
A		310	308	326	324		318	319	336	334
AV		22	15	22	14		22	14	25	16
False		13		13			18		4	

TABLE XXIV.

		B		C			B		C	
		R	R′	R	R′		R	R′	R	R′
B	5. IV.	275	262	321	319	31. VII.	307	308	304	306
Z	6.	272	273	310	301		313	314	311	303
A		276	281	292	288	2.	295	295	309	302
M	7.	293	291	302	306	4.	298	299	307	306
E	8.	316	316	337	331		313	306	315	319
A		286	285	312	309		305	304	309	307
AV		25	16	20	13		22	14	26	18
False		2		3			0		0	

TABLE XXV.

		HAND.					LIP-KEY.			
		B		C			B		C	
		R	R′	R	R′		R	R′	R	R′
b	5. I.	301	306	314	306	22. I.	313	317	327	321
z		307	298	324	325		305	300	336	322
a	7.	316	320	327	320	23.	330	328	313	309
m		310	312	311	313		310	304	313	315
e	12.	337	342	356	356		331	321	330	322
s		322	325	368	359		297	290	338	343
p	13.	323	320	341	337	28.	345	345	370	372
t		311	310	319	315		305	300	346	342
o	14.	293	290	306	304		299	299	335	332
l		303	300	306	304		311	314	344	339
A		312	312	327	324		315	312	335	332
AV		19	13	28	19		20	11	25	16
False		4		8			7		2	

TABLE XXVI.

	HAND.					LIP-KEY.				
		B		C			B		C	
		R	R′	R	R′		R	R′	R	R′
Mind	12. XII.	353	352	337	329	13. I.	360	366	374	364
Life	15.	348	351	373	377		366	367	363	365
Time	16.	333	330	375	372	15.	311	312	371	366
House		377	366	383	389		331	324	355	361
Child		345	343	328	339	17.	347	341	370	375
Year	18.	353	359	369	360		337	336	354	358
Truth		352	329	376	367	29.	302	311	360	353
Name		341	339	392	393		313	315	374	380
Light	19.	332	328	327	323		325	332	372	372
Ship		318	313	336	332		294	302	340	340
A		345	341	360	358		329	331	363	363
AV		24	13	26	17		23	12	28	20
False		2		4			7		0	
Education	5. I.	331	331	346	348	17. I.	349	345	382	386
Philosophy		330	322	349	354		347	351	376	377
Knowledge	7.	341	337	366	360	22.	353	348	329	319
Architecture		377	375	382	377		357	355	336	340
Literature	10.	339	320	363	354	23.	333	332	377	382
Temperance		341	333	399	404		339	330	377	376
Ignorance		300	297	380	369		325	319	378	382
Physician		325	329	380	375	26.	339	333	351	346
Enthusiasm	12.	334	337	405	409		353	349	409	400
Imagination		321	317	384	375		342	337	395	391
A		334	330	375	373		344	340	371	370
AV		25	16	28	19		23	15	27	17
False		8		8			6		9	
Buch	24. I.	290	294	367	363	23. I.	315	318	359	355
Zahl		309	311	380	378		310	319	370	378
Kunst		307	309	369	374		310	314	362	352
Welt		308	307	361	353		308	305	362	362
Haus	26.	295	292	354	353	24.	299	297	339	344
Licht		324	323	354	359		330	329	356	350
Kind		323	323	377	380		303	308	352	356
Land	29.	309	307	363	365	26.	316	321	373	365
Traum		321	316	377	376		324	325	368	373
Jahr		319	318	365	368		321	325	374	378
A		311	310	367	367		314	316	362	361
AV		14	9	20	13		17	12	31	20
False		6		5			10		7	

TABLE XXVII.

		HAND.						SOUND-KEY.			
		B		C				B		C	
		R	R′	R	R′			R	R′	R	R′
6. IV.	Mind...	266	269	312	306	14. II.	Mind...	311	307	380	391
	Life.....	302	292	340	340	19.....	Life.....	338	333	400	409
7.....	Time....	307	303	325	330	24.....	Child...	319	326	360	364
	House...	299	296	321	317		Truth...	317	318	339	345
8.....	Child...	282	284	327	322	26.....	Ship.....	320	326	361	367
	A.....	291	289	325	323			321	322	368	375
	AV.....	18	10	22	14			27	19	25	16
	False....	5		0				3		4	

TABLE XXVIII.

		B				C			
		R	V	R′	V′	R	V	R′	V′
	Picture of a	HAND.							
12. II...	Watch.....	262	23	249	15	295	21	292	14
	Ship.....	264	19	268	13	324	31	320	16
	Eye.....	271	17	266	11	313	24	316	9
20. III..	Hand.....	297	20	294	15	282	37	266	10
	Tree.....	246	12	244	7	296	28	302	23
	Bird.....	289	28	297	15	310	43	291	10
	Fish.....	290	19	293	17	301	23	294	13
	Leaf.....	267	12	265	9	321	31	317	26
24.....	Hat.....	270	28	277	22	306	21	312	10
	Shoe.....	283	17	286	12	341	23	346	18
	A.....	274	19	274	14	309	28	306	15
	False.....	8				8			
		SOUND-KEY.							
17. II...	Watch.....	308	32	302	14	364	44	357	34
19.....	Eye.....	341	30	336	25	408	40	408	25
21.....	Tree.....	283	27	276	17	374	32	361	17
24.....	Fish.....	309	38	315	22	304	23	296	15
26.....	Hat.....	305	42	296	24	367	59	348	36
	A.....	309	34	305	20	363	40	354	25
	False.....	2				2			

ON THE TIME-SENSE.

By Lewis T. Stevens.

The experiments which form the basis of this article have been in progress during the past two years: the greater portion of them were performed, under the supervision of Professor G. Stanley Hall, in the Psychophysical Laboratory of the Johns Hopkins University, Baltimore; the results there obtained have received confirmation from additional experiments made in the Physiological Laboratory of Professor Henry P. Bowditch, at the Harvard Medical School, Boston. The method of experimenting was somewhat similar to that of Vierordt,[1] and consisted, in a general way, in impressing upon the mind intervals of time by means of a metronome, and in reproducing the same after the metronome had been stopped.

The apparatus employed in the research was a horizontal-drum kymographion of Marey, with horizontal-screw attachment, by means of which was obtained a continuous spiral tracing. A delicate time-marker, writing upon the sooted-paper coating of the drum, was attached to the vertical support seated upon the horizontal screw, and by the revolution of the latter was made to proceed slowly from one end of the drum to the other. A tuning-fork, or a vibrating rod,[2] and a resistance-coil were placed in the same electrical circuit with this time-marker. In a shorter circuit with the tuning-fork were placed a mercury-cup and a compound lever; this latter being so constructed that by depressing one end with the finger the other extremity (hook-shaped) was made to dip into the cup of mercury and thus close the circuit. When the hooked extremity was out of the mercury-cup, the time-marker registered the oscillations of the tuning-fork, but by tapping the lever the fork was shifted into the shorter circuit, and its vibrations failed for a moment to be recorded. By tapping the lever, therefore, at the beginning and the end of an interval of time, the interval could be recorded upon the sooted paper, and its length be subsequently determined by counting the number of vibrations between two successive interruptions on the tracing. This end was attained at one stage of the investigation by inserting a Morse's key into the same circuit with the tuning-fork and the time-marker, and thus directly breaking the circuit; but the key possessed the disadvantages of requiring a considerable amount of muscular force to press it, and of

[1] See References at the end.

[2] In five out of the seven series of experiments to be reported, a tuning-fork vibrating 50 times per sec. was used; in the remaining two series, in order to render the task of counting out the tracings less tedious, a rod making 10 vibrations per sec. was employed.

making, at the same time, a sharp click. What influence the introduction of muscular force into the experiment would exert upon the time-sense, beyond that of fatigue, is not definitely known; and the same can be said for the influence of sensory impressions. But it was desirable to exclude, as far as was possible, all probably complicating conditions from the method, and, consequently, for the Morse's key was substituted the compound lever, which worked noiselessly and with the least possible resistance.

The individual under experiment tapped the lever synchronously with the beats of a metronome. When he had become perfectly familiar with the given interval, the drum was set in motion and the first round of the tracing was taken, with the metronome still beating; the latter was then stopped, while the person kept on tapping the lever at the same rate. The average of the intervals recorded in the first line of the tracing was the standard time; the rest of the tracings gave successive reproductions of this standard.

At first, the duration of each experiment was from two to three minutes, but this brought on fatigue so rapidly that it was impossible to obtain more than four or five experiments at one sitting. It was, therefore, reduced to one minute, under which condition ten or even more could be readily made at one time. In the discussion of the results, the reproductions for the first minute only will be considered in those cases where the experiments extended beyond that time.

Between two successive experiments there was an intermission of at least three minutes; in the majority of the series its length was from five to ten minutes.

In the majority of experiments the standard intervals ranged between ·36 sec. and 1·5 secs.; there are several observations for ·27 sec., and only one for 2·9 secs.

Experiments, to the number of 135 in all, were performed upon seven different individuals. Of these, 114 point to this fundamental principle:—That there is an interval of time (the value of which varies between ·53 and ·87 sec.) which can be reproduced with considerable accuracy; but with all other intervals an error is made, which is *plus* for those above and *minus* for those below the so-called indifference-point.

These will be spoken of as the "regular" experiments.

The remaining 21 follow no recognised law, and, in contradistinction to the 114, will be called the "irregular" experiments.

A. *Regular Experiments.*

The value of the standard interval being from ·53 to ·87 sec., and the duration of an experiment one minute, each experiment consists in reproducing the standard interval from about 40 to

150 times, according to its length. To condense the results for publication, a certain amount of averaging has been necessary. In the following Tables, the first figure in each column represents the value of the standard, expressed in thousandths of a second; the second figure, the average of the reproductions of the standard for the first five seconds; the third, the average of the reproductions for the second five seconds; and so on, to the end of the experiment.

In Tables II., III. and IV. are given only a fraction of the total number of experiments performed upon the subjects; in these cases, those experiments are selected for publication which show the average amount of variation. In Tables I., V., VI. and VII., one or several regular experiments are omitted from each for the reason that they are mere repetitions of one or more of those which are given.

I.—O.S. 12 Experiments, all regular.

1·440	·966	·830	·740	·710	·677	·610	·590	·480	·360
1·477	1·006	·857	·748	·728	·666	·604	·582	·474	·348
1·454	·993	.860	·756	·708	·670	·590	·564	·464	·346
1·500	·990	·853	·754	·714	·672	·582	·556	·462	·348
1·515	1·038	·860	·754	·708	·670	·584	·546	·452	·338
1·498	1·013	·853	·734	·700	·678	·588	·560	·448	·328
1·536	1·000	·850	·754	·712	·668	·594	·542	·452	·342
1·494	1·032	·870	·742	·714	·680	·578	·544	·446	·338
1·522	1·015	·850	·742	·700	·670	·580	·552	·446	·336
1·510	1·028	·875	·752	·706	·654	·588	·560	·444	·334
1·570	1·041	·868	·768	·710	·654	·600	·554	·440	·332
1·543	1·046	·882	·770	·722	·674	·590	·556	·440	·332
1·580	1·008	·852	·764	·714	·680	·596	·548	·470	·326

II.—I.I.H. 36 Experiments, of which 5 are irregular.

1·360	·937	·730	·653	·593	·525	·492	·442	·410	·360
1·448	·960	·749	·657	·591	·522	·481	·442	·398	·351
1·498	·908	·786	·667	·596	·520	·491	·432	·400	·351
1·475	·939	·757	·641	·593	·542	·486	·446	·403	·351
1·470	·985	·783	·663	·589	·540	·489	·445	·400	·351
1·547	1·018	·767	·675	·600	·540	·484	·456	·408	·349
1·545	1·035	·783	·659	·600	·532	·482	·436	·400	·350
1·510	1·065	·729	·676	·600	·519	·490	·442	·405	·345
1·530	1·062	·757	·670	·611	·524	·491	·427	·403	·352
1·485	1·101	·783	·670	·600	·492	·490	·425	·389	·349
1·487	1·126	·783	·689	·600	·512	·490	·422	·413	·349
1·543	1·153	·800	·691		·510	·486	·418		·351
1·525	1·163	·800			·534	·494	·426		·347

III.—H.P.B. 38 Experiments, of which 6 are irregular.

1·250	·900	·800	·731	·708	·640	·594	·569	·540	·488
1·263	·917	·817	·729	·714	·631	·588	·561	·564	·480
1·275	·917	·800	·743	·707	·625	·587	·550	·524	·475
1·323	·922	·850	·737	·693	·625	·578	·563	·533	·467
1·318	·928	·833	·734	·714	·619	·589	·559	·520	·464
1·268	·960	·850	·743	·714	·625	·596	·556	·524	·463
1·323	·980	·833	·729	·710	·625	·601	·561	·518	·466
1·350	·940	·862	·729	·719	·633	·603	·569	·550	·469
1·367	·960	·888	·757	·729	·639	·600	·570	·520	·476
1·400	1·023	·850	·757	·700	·640	·613	·563	·520	·490
1·450	·994	·867	·817	·743	·639	·635	·589	·546	·486
1·423	·946	·818	·817	·729	·669	·615	·587	·528	·474
1·433		·868	·808	·729	·675		·597	·527	·480

IV.—F.S.L. 18 Experiments, of which 3 are irregular.

1·467	1·100	·875	·822	·746	·727	·662	·620	·476	·387
1·517	1·109	·883	·817	·731	·728	·660	·628	·464	·379
1·577	1·168	·860	·826	·714	·698	·635	·595	·468	·377
1·540	1·212	·839	·828	·706	·700	·608	·585	·463	·366
1·530	1·158	·835	·824	·737	·692	·633	·602	·466	·370
1·534	1·170	·857	·842	·718	·667	·616	·607	·458	·359
1·572	1·166	·831	·799	·716	·692	·617	·595	·461	·357
1·501	1·095	·855	·833	·733	·688	·610	·598	·447	·377
1·474	1·163	·877	·806	·739	·711	·623	·603	·449	·364
1·555	1·140	·884	·788	·736	·712	·621	·598	·467	·357
1·515	1·140	·884	·791	·710	·716	·607	·605	·454	·362
1·530	1·129	·883	·795	·703	·700	·623	·587	·455	·362
1·473	1·150	·925	·791	·713	·708	·632	·600	·456	·354

V.—G.S.H. 9 Experiments, of which 2 are irregular.

1·535	·826	·721	·636	·508	·268
1·670	·823	·713	·613	·492	·261
1·687	·821	·712	·608	·496	·259
1·573	·802	·697	·620	·488	·262
1·677	·794	·701	·618	·505	·261
1·680	·849	·691	·611	·492	·260
1·650	·824	·683	·616	·488	·266
1·640	·824	·705	·608	·479	·262
1·713	·810	·702	·623	·499	·269
1·587	·837	·681	·620	·482	·271
1·676	·802	·681	·617	·472	·262
1·763	·834	·704	·628	·470	·268
1·703	·801	·694	·604	·480	·264

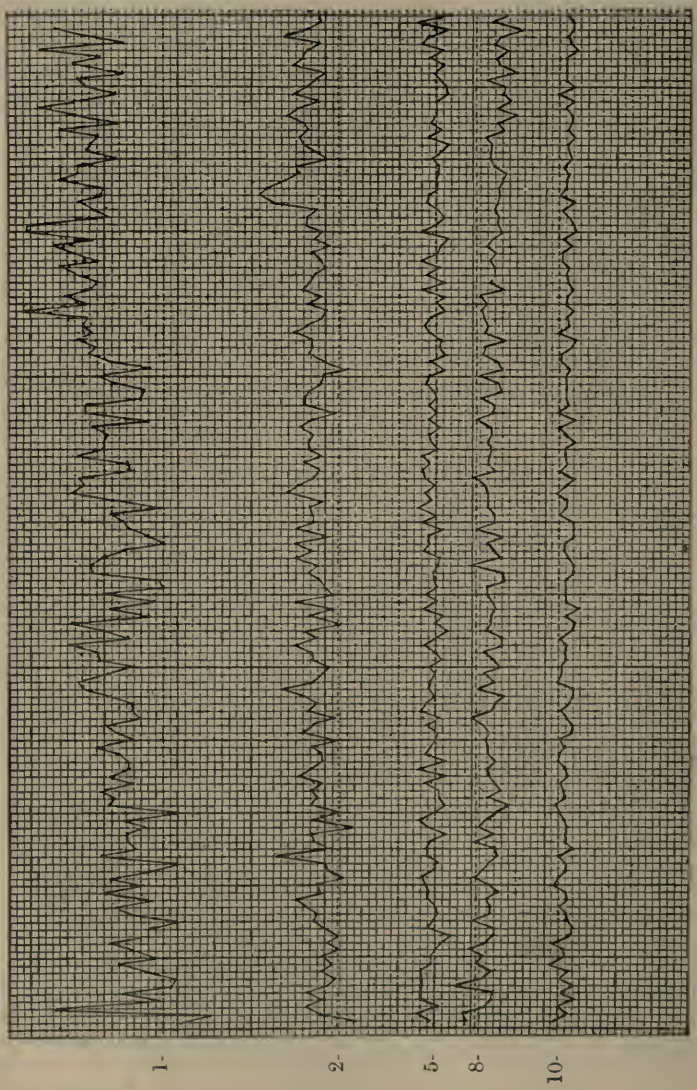
VI.—L.T.S. 11 Experiments, of which 1 is irregular.

1·480	·750	·744	·660	·590	·500	·360	·260
1·571	·777	·787	·660	·583	·494	·356	·245
1·494	·807	·789	·667	·580	·462	·351	·259
1·556	·830	·743	·653	·588	·486	·348	·258
1·544	·792	·794	·654	·583	·490	·335	·254
1·516	·815	·803	·636	·578	·496	·346	·261
1·537	·829	·791	·640	·548	·490	·347	·256
1·540	·823	·786	·659	·547	·488	·345	·251
1·574	·850	·789	·653	·562	·490	·367	·252
1·574	·890	·776	·651	·564	·496	·337	·252
1·587	·870	·783	·680	·571	·486	·332	·250
1·552	·870	·851	·657	·569	·494	·342	·246
1·536	·875	·809	·653	·580	·492	·332	·248

VII.—H.H.D. 11 Experiments, of which 4 are irregular.

1·458	·979	·730	·600	·472	·400
1·488	1·006	·751	·597	·462	·390
1·436	·970	·718	·602	·458	·394
1·589	·998	·726	·588	·438	·369
1·602	·955	·739	·596	·434	·365
1·694	·941	·731	·600	·447	·356
1·693	·994	·734	·605	·436	·344
1·663	1·050	·733	·585	·482	·340
1·582	1·021	·726	·596	·435	·335
1·647	·999	·732	·562	·442	·333
1·683	1·011	·735	·559	·442	·340
1·688	·987	·718	·579	·434	·335
1·619	·971	·747	·590	·442	·345

A glance at these Tables shows that, in each case, short intervals are shortened and long intervals are still further lengthened in their reproduction; and that somewhere between the two extremes is an interval, in the reproduction of which there is made practically no error. These points are more plainly seen in the annexed series of curves, which represents, in detail, experiments 1, 2, 5, 8, 10 of Table I. Each mm. of ordinate represents ·02 sec. The dotted line for each curve (opposite which the number of the experiment is placed) represents the level of the standard interval above the common base-line. The curve is obtained, in each case, by joining with straight lines the upper limits of the ordinates, the lengths of which represent the value of successive reproductions of the standard interval. The ordinates are separated from each other by a space of 1 mm. Where no error is made in reproducing the standard, the curve hugs the dotted line, as is the case with the middle one. Where an error is made, the curve recedes more and more from the dotted line, according to the amount of the error; and is above or below it, according as the error is *plus* or *minus*.



The amount of error made for each interval, and the position of the indifference-point, are better shown in the following Tables, which represent the experiments in a still more compact form. In the first column of each are placed the standard intervals; opposite these, in the second column, are the averages of the total number of reproductions for one minute; and in the third column is shown the amount of error made in each case.

	Standard.	Reproduced.	Error.
I.	1·440	1·517	+ 5·4 per cent.
	·966	1·018	+ 5·4 „
	·830	·861	+ 3·7 „
	·740	·753	+ 1·8 „
	·710	·711	+ ·1 „
	·677	·670	− 1·0 „
	·610	·590	− 3·3 „
	·590	·555	− 5·9 „
	·480	·454	− 6·3 „
	·360	·337	− 6·4 „
II.	1·360	1·502	+ 10·5 „
	·937	1·043	+ 10·3 „
	·730	·773	+ 5·9 „
	·653	·669	+ 2·4 „
	·593	·598	+ ·9 „
	·525	·524	− ·2 „
	·492	·488	− ·8 „
	·442	·435	− 1·6 „
	·410	·402	− 2·0 „
	·360	·350	− 2·8 „
III.	1·250	1·349	+ 7·9 „
	·900	·953	+ 5·9 „
	·800	·845	+ 5·6 „
	·731	·758	+ 3·7 „
	·708	·717	+ 1·3 „
	·640	·637	− ·5 „
	·594	·600	+ 1·0 „
	·569	·569	0·0 „
	·540	·528	− 2·2 „
	·488	·474	− 2·9 „
IV.	1·467	1.527	+ 4·1 „
	1·100	1·150	+ 4·5 „
	·875	·868	− ·8 „
	·822	·812	− 1·2 „
	·746	·721	− 3·4 „
	·727	·701	− 3·6 „
	·662	·624	− 5·7 „
	·620	·599	− 3·4 „
	·476	·459	− 3·6 „
	·387	·365	− 5·7 „
V.	2·850[1]	3·410	+ 19·7 „
	1·535	1·668	+ 8·7 „
	·826	·819	− ·9 „
	·721	·697	− 3·3 „
	·636	·616	− 3·2 „
	·508	·487	− 4·1 „
	·268	·264	− 1·5 „

[1] This experiment was not included in the preceding Tables, because of the impossibility of dividing it up into periods of 5 seconds.

VI.	1·480	1·548	+ 4·6 per cent.
	·750	·836	+ 11·5 „
	·744	·792	+ 6·5 „
	660	·655	− ·8 „
	·590	·571	− 3·2 „
	·500	·489	− 2·2 „
	·360	·345	− 4·2 „
	·260	·253	− 2·7 „
VII.	1·458	1·615	+ 10·8 „
	·979	·992	+ 1·3 „
	·730	·733	+ ·4 „
	·600	·588	− 2·0 „
	·472	·446	− 5·5 „
	·400	·354	− 11·5 „

These Tables show very plainly the main point of the paper, namely, that the error made in the reproduction of the longer intervals is *plus*, of the shorter ones, *minus;* and that at some point between the two extremes the error approaches zero.

The value of this indifference-point is found not to be constant, but to vary for different individuals between ·53 and ·87 sec., the average being about ·71 sec. The position of the indifference-point is not so accurately defined in Case III. as it is in the others. The reason for this is not evident. Of the six regular experiments made for intervals from ·55 to ·70 sec., the mean value of the standard interval is ·61 sec., and the average of the error of reproduction is ·3 per cent., the individual variations not being, algebraically, more than 1 per cent.

With reference to the amount of variation, the number of experiments is, in the majority of cases, not sufficient to give the results a quantitative value. The amount of variation depends upon the fixedness of the attention on the work, and upon the experience which one has had in estimating and holding intervals of time. The complaint was made quite frequently by several of the gentlemen of their inability, at times, to keep their whole attention upon the experiment; and subsequent examination of such experiments showed that the error made was either contrary to the law above stated, or was in the proper direction but abnormally large in amount. The effect of practice was well seen in Case III., where a great number of observation swas made. In the first few experiments very large errors were made; but as the work proceeded, they gradually diminished in amount, until they reached, on the average, the size that is represented, for the various intervals, in the Tables. Tables I. and II. were obtained from gentlemen who are musicians by profession; in the second case, where numerous experiments were made, the uniformity in the amount of variation was a noted feature from the very start. Moreover, in both these cases there was not that difficulty which was experienced by certain of the others, in grasping the longer intervals of time.

Diversion of attention and small experience are, therefore, regarded as the cause of the great irregularity in the size of the errors that is observed in the last four Tables.

The first three Tables, however, possess a certain quantitative as well as qualitative value; and in these it is observed that the error gradually increases in amount, as the indifference-point is moved from, in either direction. As to the manner of variation, examination of the curves (p. 398) reveals two remarkable points. (1) The constant zig-zag of individual records. This is a peculiarity which was observed in all the curves plotted.[1] Of the series of curves published, the upper one shows about 19 cases only out of about 140 in which two sequent variations are in the same direction. This would seem to indicate that an interval is judged more correctly after it is completed than before, and that correction is made for its error in the next reproduction, according to a standard which the mind carries but to which the hand (or perhaps the will during the interval) cannot be accurately true. The origin of this peculiarity would, therefore, appear to lie not in the judgment, but in the execution. (2) In all of the curves plotted, there were observed more or less distinctly still larger and more primary waves. The prominence of these varied greatly; in some of the curves they were apparently absent, in others they were decidedly marked. On p. 398, three such waves are plainly seen in the first, and one each in the second and fourth curves; in the third and fifth they are not so evident, but their existence is shown by enlarging these curves. Taking into consideration all of the curves that were plotted, it may be stated that these waves are no more prominent for one interval than for another, as the published curves would indicate. The length of these waves, expressed in fractions of a minute, varies, in the majority of cases, between ·6 and ·9 min., and averages ·73 min.[2] This rhythmical variation seems to be not in the execution, but rather to have its origin in a rhythmical variation of the standard carried in the mind. That this is connected with the rhythmical changes in the nutritive condition of the cerebral centres, as produced by the vaso-motor rhythmical constriction of arterioles, it would be rash to deny or affirm, or, perhaps, even to suppose.

B. *Irregular Experiments.*

The following are all of the irregular experiments, given in the form best adapted to show the direction and amount of variation:—

[1] 24 in number, representing experiments from Cases I., IV., V., VI.

[2] The lengths of those detected in the curves obtained from Case I. vary between ·63 and ·86 min., and averaged ·73 min. The average of 15 from Case IV. is ·73 min.; of these 12 vary between ·62 and ·88 min., and the values of the remaining 3 are ·56, 1·06, and ·91 min. 11 waves from Case V. vary between ·62 and ·95 min., and average ·72 min. 9 from Case VI. vary between ·61 and ·89 min., and average ·73 min.

	Standard.	Average of the total number of reproductions.	Error.
II.	·800	·798	− ·3 per cent.
	·515	·535	+ 3·9 „
	·506	·526	+ 4·0 „
	·500	·523	+ 4·6 „
	·471	·494	+ 4·9 „
III.	·960	·960	0· „
	·933	·929	− ·4 „
	·647	·681	+ 5·3 „
	·615	·645	+ 4·9 „
	·588	·619	+ 5·3 „
	·493	·510	+ 3·4 „
IV.	·920	·908	− 1·3 „
	·796	·862	+ 8·3 „
	·734	·783	+ 6·7 „
V.	1·115	1·072	− 3·9 „
	·733	·746	+ 1·8 „
VI.	·614	·620	+ 1·0 „
VII.	·632	·657	+ 4·0 „
	·626	·635	+ 1·4 „
	·552	·591	+ 7·0 „

The irregularities consist in reproducing accurately long, in shortening long, and in lengthening short intervals. It must be stated that, in the attempt to get pure results, all those experiments were excluded in which fatigue or inattention spontaneously stated by the subject entered, but no others. The examination of such experiments, however, revealed the fact, that the effect of fatigue is to make the error for short intervals *plus* instead of *minus*, and to increase the amount of variation made in the reproduction of long intervals; and that individuals under experiment are apt, when inattentive, to shorten long and prolong short intervals. Some of these experiments, at least, are, therefore, regarded by the author as those in which fatigue and diversion of attention were existing but not acknowledged conditions. The accurate reproduction of long intervals is regarded as the chance result of the mutual neutralisation of the two opposing factors, the natural tendency to slow, and the effect of inattention.

The conclusion drawn in this paper, with reference to the direction of the variation made in estimating long and short intervals, is in direct opposition to that of previous investigators. Vierordt (1), receiving time-impressions from the beating of a metronome and after the lapse of a short while reproducing them,

found that the reproduced interval was longer than the standard when this was small, shorter when it was great; and that between the two extremes was an interval which could be reproduced quite accurately. This indifference-point was not the same for different individuals, but varied between 1·5 and 3·5 secs. For himself, when the impressions were conveyed through the sense of taste, this interval was from 2·2 to 2·5 secs.; when through the sense of hearing, from 3 to 3·5 secs. These values were obtained when a short time elapsed between reception and reproduction; with the increase or diminution of this, the indifference-point was found to grow longer or shorter.

According to Mach (2), whose experiments were performed according to the method of just perceptible differences, the recognition of the inequality of two intervals of time, one interval following immediately upon the other, is the most delicate at about ·37 sec.; and the further from this point the standard interval recedes, the greater must be the difference between the standard and the interval for comparison, in order that they be recognised as unequal. There is, however, considerable discord in his results, which detracts from the value of his conclusions.

Kollert (3) began the long series of experiments that have been performed in Wundt's laboratory. His experiments were performed according to the method of just perceptible differences. Two metronomes were used, the pendulum of each of which was placed in an electrical circuit along with an electro-magnet, so that by the momentary opening of the current a double vibration of the pendulum of the metronome could be effected, and thus an interval of time be marked out. One of the metronomes beat at a rate which was constant for a single series of observations; the other gave out various intervals for comparison with the standard. An intermission occurred between the two intervals, which in length was equal always to the standard. The pendulum of the second metronome was shortened, until a just perceptible difference was observed between its time and that of the first; after which it was elongated, until the subject detected a difference between the two. The mean of these two just perceptible differences gave the error made by the individual under experiment in his estimation of the constant interval. Experiments were made upon seven individuals for intervals extending from ·4 to 1·5 sec. The majority of these experiments confirm the general law laid down by Vierordt, but fix the indifference-point between ·7 and ·8 sec. The remaining, which constitute about one-fourth of the total number of experiments, are called anomalous. In three of the five series of anomalous experiments, the tendency seems to be to bring the value of the indifference-point up to 1 to 1·2 secs.; in the other two, long intervals are prolonged and short ones still further shortened. Wrong decisions were chiefly made for ·4 and ·5 sec.

Estel (4) and Mehner (5) have extended these investigations, using, practically, the same method, and have incidentally fixed

the value of the indifference-point at ·71 sec., as well as shown that the law of Vierordt is applicable, in general, to intervals considerably greater than 1·5 seconds. Their papers, however, deal mainly with the influence of contrast, the multiplicity of the indifference-point, and the validity of Weber's law for the time-sense; their valuable conclusions will not be reported, inasmuch as the experiments in question do not bear upon them.

From this short and very incomplete account of previous experiments, it will be seen that in all cases the conclusion is drawn, that the natural tendency is to subtract from long intervals and to add to short intervals, in reproducing or estimating them. The conclusion drawn in this paper is exactly the reverse. With reference to the value of the indifference-point, however, my results and those of recent investigators are in harmony.

I have no means of forming an opinion as to the cause of the discrepancy between my own results and those of others. The method used by Wundt's students is entirely different from mine. In one, comparison is made of two intervals, and the process is purely mental; while the other consists in catching an interval and reproducing the same, and, of course, in doing so, certain physiological and psychological moments (the exercise of the will, the origination of motor impulses and their transmission along efferent fibres, and the latent period of muscular contraction), in addition to the mental process, enter into the experiment. Whether these factors enter and, if so, how, or whether (as is barely suggested by the anomalous results) fatigue and inattention may have entered more largely into other methods in a way to account for the previous results, seems to require further study.

I regret that other duties prevent me from continuing the investigation, and I now publish my results, not with the intention of denying outright the correctness of previous conclusions, but with the hope that they will act as an incentive to others to proceed with the work, so as to obtain definite information of the possibly existing factors that are capable of so completely perverting the operations of our time-sense.

Before concluding, I have to thank Profs. G. Stanley Hall and Henry P. Bowditch for their advice and assistance; and also the other gentlemen who have kindly acted as subjects for experiment, or have otherwise assisted me.

References.

(1) Vierordt: *Der Zeitsinn*, (1868); cp. Wundt's *Phys. Psych.*, s. 781.
(2) Mach: Wundt's *Physiol. Psychol.* (1te Aufl.), s. 785.
(3) Kollert: *Philosophische Studien*, Bd. i., Heft. 1, s. 88.
(4) Estel: ,, ,, Bd. ii., Heft. 1, s. 37.
(5) Mehner: ,, ,, Bd. ii., Heft. 4, s. 546.

Boston, January 10th, 1885.

V.—DISCUSSION.

COMPARISON—IN PSYCHOLOGY AND IN LOGIC.

By B. Bosanquet.

It seems a pity to drop so interesting a discussion as that initiated by Mr. Sully on Comparison in Mind 40, and continued by Mr. Bradley in No. 41. I here approach the subject from a different point of view but, I hope, a not uninstructive one.

Comparison in the psychological sense presupposes distinct data, and an interest in comparing them. The data need not be determinate individual objects, but must be so far distinct perceptions as to be nameable or at least recognisable. Thus comparison, in this sense, does not begin with the beginnings of knowledge. The separate data presuppose perceptive judgments, and the interest in comparing them presupposes an import—in the widest sense, a *use*—attaching to some characteristic of the one, and so suggested by reproduction or "redintegration" when we perceive the other. Then the interest arises in asking "How and how far are the two data the same, or how and how far different?" And *such* comparison ends when the judgment loses its special cross-reference to the data with which it starts, and transforms itself into an estimate of each datum by a standard that goes beyond both. "He is an inch taller than me" is a comparative judgment; as also would be "He is of the same height as I am," or "He is of a different height from me". But the judgment of identification, "We are both six feet high," or the judgments involving difference, "He is six feet high and I am five feet eleven inches," are not comparison in the above strictly limited sense,—which I have called the psychological sense of comparison, because it does not seem to me really to form a logical species. Its differentia, if it were such a species, would be that it is guided by the unanalysed idea of identity and diversity. The analysis which this idea sets up transforms it into a general standard, and then the special correlation of the data is done away with. This is tested by the possibility of separating the judgment of identification into single judgments. It is nonsense to say (except elliptically) "I am of the same height," but it is good sense to say "I am six feet high". The second judgment refers to an explicit standard which replaces the accidental relation to a particular datum. The difference between the two judgments represents the point where comparison in the psychological sense passes into a disjunction of cases under a principle. The logical process is continuous, and is essentially comparison after this point as before. That we do not call it so is analogous to our counting only those terms as relative which go

together in pairs or threes, as "father and son," &c. We get off the track of a process or relation when it becomes general in its scope.

It is especially within the limits above assigned to comparison in the psychological sense, that the idea of reciprocal subsumption or apperception of each datum under or by the other *seems* to apply. I wish to raise the question how far this subsumption, and especially its reciprocal character, is anything but a characteristic of sense-perception and of imperfect knowledge. The logical purpose of the whole process, which must ultimately govern the comparing activity even as known to psychology, is surely to make the identity and diversity of the data explicit by subsuming them not under each other, but under some standard, quantitative perhaps, or else furnished by the notion of Kind or of Purpose. The subsumption of one under the other, or rather under an element in the other, is really the beginning of the subsumption of both under a principle. But, of course, in the effort to light on the principle we try elements first out of one datum and then out of the other, and we look or listen alternately, —chiefly because our sense is subject to time and space.

I will work out one or two examples. I have to match a particular fish-hook. I take my pattern, hold the one I am testing close beside it, and try if they coincide in length and curve; supposing that they do. then I judge the second the same as the first in these respects: I might say I subsume the length and curve of the second under those of the first—better, I equate the two. Then I recur to the first and examine the thickness of the steel, and again subsume the corresponding property of the second under this property. With reference to *reciprocal* subsumption, a remark must be made here. We are apt, in comparison, after one such subsumption as described above, to continue dwelling on the *second* object, to pass on to another property in *it*, and to make this a starting-point from which we return to the first to subsume the corresponding property of this first under this character in the second—like a ship which unloads one cargo and then takes another on board at the same port, so as not to make an empty return journey. This kind of alternation is, I think, a bad practice, and the source of confusion. It is better not to pass on to a further quality in the second datum, but to make an empty return journey and start again from a further quality in the first object; otherwise we risk confusing the first with the second object. But of course, at the end of the process, the second may still have superfluous qualities, and we must then take these as a datum and, finding nothing in the first to correspond with them, register them as a difference between the two. Apart from the erroneous tendency mentioned above, this is the only trace that I can find of *alternate* subsumption. But in as far as mastering the identity and diversity of the contents before us is a process in time, of course there is *successive* subsumption.

I will now take a couple of instances in which comparison in the psychological sense passes with unusual facility into logical

comparison, which is in fact simply inductive analysis. Here the suggestion of Identity and Diversity operates, but favourable conditions enable it to be transmuted almost at once into the suggestion of a pervading principle ; and the subsumption becomes subsumption under a property or principle, rather than under an unanalysed content. This is because the emphasis and repetition of certain attributes break through the shell of the particular examples at once and without effort : comparison in the psychological sense becomes a vanishing moment, and the pervading identity in all the data forces itself on our consciousness; *i.e.*, all the data are subsumed under one identity. There is a cage in the Zoological Gardens containing several kinds (six, I think) of hawk or falcon. I happened to see them fed, and was struck by the attitude which each of the six birds assumed, not attempting to begin its food at once, but putting one foot on it and looking round as if suspicious of an attack. So far as a first rough identification goes, the single judgment of perception not only started the comparison but completed it. But of course such an identification is a mere suggestion compared with real inductive analysis. For, to such analysis, it would not matter about the attitude being the *same* in the birds which I happened to observe—the data of my comparison in the psychological sense—but only what the attitude was, what it meant, and of what birds it was really characteristic. As regards the process of the comparison itself—comparison in the psychological sense —the account of it as alternate subsumption, or, as I have preferred to say, successive subsumption, is not excluded by the mere singleness of the perceptive judgment. We must admit that a judgment may be single, and yet contain parts which are also judgments. I make no doubt that within the continuous whole of the comprehensive perception, "all these birds, &c.," there was a series of perceptive judgments in which the attitude of each bird was subsumed under that of some other, the latter being itself qualified and reinforced by reproduction of the attitude of those previously noticed. Only, in an example where the common attribute is so directly perceptible as it is in this, we find the logical content of identical perception dwarfing the particular instances and emerging as a characteristic or attribute within which the several instances find their distinct places.

Another case which I remember distinctly was the occasion of my first realising the typical appearance of implements of the stone age. I had previously seen only isolated and inferior specimens, and had felt perhaps a little sceptical as to their being the work of man's hands at all. But happening to enter the Blackmore Museum at Salisbury, where there were hundreds of excellent specimens arranged in gradation according to the fineness of their workmanship, I was of course at once enabled to recognise the identity of type pervading them. And I have no doubt that in such a graduated arrangement the appearance of the finer products of more marked shape and adaptation to their

purpose reinforces and interprets the ruder shapes; or, using the same phraseology as before, we may say that the ruder shapes are subsumed under those whose import is more unmistakeable. That is to say, we notice the latter first, and then, when we look at the former, the latter are supplied by "redintegration," and so enable us to pick out the characteristic outline in the ruder form. That this process is a copious source of fallacy as well as of discovery (for a rude outline is often of ambiguous interpretation) only shows that it must be carried into detail with great care. It is obviously the unconscious rudiment of the Method of Concomitant Variations, which is only an application of the principle that Identity cannot exhibit itself except in Difference.

The problems of *degrees* of Difference and of Identity seem to me therefore to belong to logic and not to psychology. We are, as I believe, on the wrong track, if we try to refer these degrees to difficulty or delay experienced in the psychical process of making identifications or transitions. We can only speak of degree in reference to a standard, and this standard must be, I think, of the nature either of Quantity or of Kind. Under the head of Kind we may rank Purpose. If there is indiscernible identity on the one hand, or mere qualitative distinction on the other, then we have no question of degree. Two shades of green are more or less of the same; but green and carmine would be, I presume (if pure, which no actual colour-sensation ever is), simply distinct, simply, that is, not the same, and no degree of difference can be assigned them as colour. Of course as light-stimuli they have a measurable relation.

It would follow that to ask as regards any two given terms whether there is more identity or difference between them, is a question entirely relative to the standard which we select. No identity, and no difference, has an absolute value. The nearest approach to such an absolute value is relation to a quantitative scale. *If* the two terms can be referred to places on a scale, which is exhaustive and of which the intervals are truly equal, then we *ipso facto* judge whether the units which the two terms have in common (their identity) or those by which the one exceeds the other (their difference) make the greater sum. But this is all. In *using* such a scale we use it for a purpose or for an effect (*e.g.*, in music and painting), and then the purpose or effect at once becomes the standard of identity and difference. We may say if we like that an aggregate of 100 sacks of corn compared with 49 sacks has more difference than identity. But if we only want 40, and are not bound or allowed to dispose of what we do not want, the two aggregates are identical for our purpose. Mill, in distinguishing analogy from induction (*Logic*, ii. 85), comes very near attempting to balance likenesses as such against differences as such in a way which is purely chimerical. We can make nothing out of asking how much likeness or difference there is between two terms. The only fruitful question is *what* the likenesses, &c., are, and what they prove.

VI.—CRITICAL NOTICES.

Scientific Theism. By Francis Ellingwood Abbot, Ph.D. London: Macmillan; Boston: Little & Brown, 1885. Pp. xxiii., 219.

This book formed a contribution to a discussion in the Concord Summer School of Philosophy on the question: 'Is Pantheism the legitimate outcome of modern science?' The Introduction (which contains in clear and concise form the argument of the first part of the present volume) appeared originally in Mind 28, under the title "Scientific Philosophy: a Theory of Human Knowledge". The author informs us in the Preface that, though the book was written in "five summer weeks," "it took five times five years to think it out. It is a mere *résumé* of a small portion of a comprehensive philosophical system." The impression left on the mind by a perusal of the book is precisely that which might be anticipated from this notice of its history. It bears evidence on every page that it is the outcome of patient and independent thought; but it also bears the mark of somewhat hurried production. There is, for example, an amount of repetition of identical phrases, which, though sometimes effective, becomes occasionally excessive; and the generally admirable clearness and precision of statement is not seldom marred by passages of an intricacy and technicality of terminology hardly to be met with outside of Kant.

The title expresses exactly the thesis of the book. It is an attempt to prove Theism by the scientific method, or rather by that method philosophised, *i.e.*, made conscious of its own presuppositions. The author believes that a "revolution" of modern philosophy is necessary in view of the existence of modern science. "To show what it is, and to what it leads in the sphere of religious belief, is the special object of my book." Philosophy, he thinks, has all along been on the wrong track: it must now take up the standpoint of science. What is needed is the "identification of philosophy and science". The "revolution" which the author desiderates is thus the reverse of the supposed Kantian revolution. This last he will not allow to have been worthy of the name. When Kant "founded the Critical Philosophy on this cardinal doctrine that 'things conform to cognition, not cognition to things,' and when he claimed thereby to have created a mighty revolution in philosophy comparable only with that of Copernicus in astronomy," he did not "really occupy a new philosophical standpoint, or really adopt a new philosophical method" (p. 3). The standpoint of Kant is really the standpoint of Nominalism. "He merely completed, organised and formulated the veritable revolution which was initiated in the latter half of the 11th cen-

tury by Roscellinus the Nominalist. . . . Nominalism distinctly anticipated the Critical Philosophy in referring the source of all general conceptions (and thereby of all human knowledge) not to the object alone or to the object and subject together, but to the subject alone; it distinctly anticipated the doctrine that 'things conform to cognition, not cognition to things'" (p. 3). Thus, through the influence of Kant, "all modern philosophy, by tacit agreement, rests upon the Nominalistic theory of universals" (p. 5). The principle of Association, for example, which rules "the English School" is only "one of the innumerable *aliases* by which Nominalism eludes detection at the bar of contemporary thought" (p. 5). And "the strength of Idealism" is "the strength of Nominalism—no more, no less" (p. 7).

In thus calling attention to the Nominalistic current in philosophical thought, and tracing it from its source to its latest issues, Mr. Abbot has done a real service. The justice of his complaint must also be allowed, that the significance of the Nominalistic principle has not hitherto been appreciated by the historians of philosophy. Farther, his detection of a Nominalistic vein in Kant is just and important. But when he proceeds to reduce Kant's entire work to a *mere* development of Nominalism, Mr. Abbot is evidently going beyond his record. It may be granted that Kant was himself a Nominalist, and that his Nominalism is the clue to much that he says of the 'object,' the 'thing-in-itself,' &c. But that the Critical Philosophy of which he is the founder is no more than the "logical development of Nominalism," that Kant was "anticipated" by Roscellinus, will not be admitted by anyone who understands Kant. The 'revolution' to which Kant laid claim was real and thorough-going. It was more than a "revival of Nominalism"; it was something new; and one is forced to infer, both from this general attitude and from several remarks on the subject, that Mr. Abbot has not appreciated its real significance. He confuses Critical or Transcendental with Psychological or Empirical Idealism. This confusion comes out in many passages: *e.g.*, "A consistent Idealist can claim to know no more than this—that there exist ideas in his consciousness" (p. 8). "The Idealist begins with his consciousness alone as the only certain or indubitable datum." "Knowledge itself . . . . is confined to the series of changes that go on in consciousness" (p. 36). Accordingly, he speaks of Transcendentalists, equally with Psychological Idealists, as "phenomenalists". "The root of modern idealism, whether in its transcendental or experiential form, is the theory of *Phenomenism*—the theory that nothing can be known except 'phenomena,' and that all phenomena depend for their existence on individual human consciousness alone" (p. 71). And in its "advanced form" the theory of phenomenism is said to be "based on the Kantian philosophy". All this betrays a want of appreciation of the peculiarity or *novelty* of the Kantian position. Kant's *à priori* is identified with the old *à*

priori of the advocates of 'innate ideas': his Critical Idealism with the Subjective Idealism of Berkeley. But the development of the Kantian position in the hands of Kant himself, as well as in those of his successors, is the proof that "phenomenism" is only incidental to his method. Knowledge, at the Transcendentalist's evaluation, is *real* knowledge—knowledge of the real—and Transcendentalism is just the explanation of the meaning of 'reality' in knowledge. Thus most of Mr. Abbot's polemic misses its aim as against Transcendentalism, inasmuch as it proceeds throughout on the assumption of that absolute dualism in knowledge which it is the work of Criticism to break down. He speaks, *e.g.*, of "the world outside of consciousness," though he is forced to admit that "whatever exists is intelligible". Nor is his criticism self-consistent. He conceives the Idealism of Kant, on the one hand, as subjective or individualistic Idealism, as a reduction of human knowledge "to the petty dimensions of individual self-consciousness . . . . valuable only as to the *à priori* constitution of the individual's own mind" (p. 9), and contends that, as such, its only logical issue is Egoism or Solipsism. "All sequent subjectivism abolishes the universal, and leaves only the individual, a solitary, unrelated, incomprehensible Ego" (p. 48). The answer to this line of attack is simply that the self-consciousness in which Kant finds the centre both of knowledge and of reality is not the individual but the universal self-consciousness—that his method is not empirical but transcendental. But Mr. Abbot has another view of the Kantian position, which intermingles curiously with that just referred to. On this view, the "Subjectivism" of Kant is in essence mere Sensationalism, "and it thus lands us ultimately in the scepticism of Hume" (p. 43). To this the sufficient answer is that the only escape from the "Subjectivism" which issued in Hume's scepticism is the objective or Critical standpoint of Kant.

The "revolution" which Mr. Abbot desiderates in philosophy is from the "subjective" to the "objective" standpoint. The latter is, he maintains, the standpoint of science. "All scientific investigations are founded on a theory diametrically opposed to that of Kant: namely, that things can be known, though incompletely known, as they are in themselves, and that cognition must conform itself to them, not they to it" (p. 14). "The time has come for philosophy to reverse the Roscellino-Kantian revolution" (p. 14). The scientific method "demands with increasing emphasis from philosophy a theory of knowledge that shall justify it in all eyes". The contradiction between philosophy, as hitherto pursued, and science is "absolute and insoluble". "The one is exclusively and narrowly subjective, ... the other is objective, in a sense so broad as to include the subjective within itself" (p. 11). "Science must be all a huge illusion, if philosophy is right; philosophy is a sick man's dream, if science is right" (p. 36). "The possibility of the one is the impossibility of the

other" (p. 49). Which it is that must surrender to the other, is obvious. For Science at any rate is not a mere "possibility"; it is a great reality. "Science is actual knowledge of a noumenal universe, and therefore refutes by its bare existence the phenomenism which denies the possibility of such knowledge" (p. 79). The theory implied in the scientific method "can be overthrown only by overthrowing the scientific method itself". That theory Mr. Abbot calls "Scientific Realism or Relationism," or the principle of the "objectivity of relations," as opposed to the philosophical "subjectivity of relations". In the concession and interpretation of this principle consists the required "revolution" in philosophy. For, this principle of "objectivity" once conceded by Philosophy, the foundation is taken from every "phenomenistic" theory. Just as the "necessary corollary" of Subjectivism is "the separability of phenomena and noumena," the "necessary corollary" of the Objectivism of science is "the inseparability of noumena and phenomena". The distinction becomes one of thought, not of reality; and "the only utility in retaining the distinction at all is to mark the distinction between complete and incomplete knowledge—noumena being taken to denote things-in-themselves as they *exist* in all the complexity of their objective attributes and relations, and phenomena being taken to denote these same things-in-themselves so far only as they are *known* in their objective attributes and relations" (p. 53).

This vindication of the objective standpoint of Science and this account of the real nature of the distinction between the noumenon and phenomenon are excellent. The principle of "Relationism," if properly understood, is undeniably true, and must supersede all merely "subjective" principles. We cannot believe in "a noumenal world" which possesses in itself "a non-relational or chaotic constitution," and which therefore must "remain for ever unintelligible *per se*". But, in order to be philosophically valuable, "Relationism" must be led up to by the pathway of Criticism. Philosophy cannot simply take up the standpoint of Science. The two cannot be "identified". For their attitude towards experience is different. Here again a more thorough appreciation of the meaning of Criticism would have saved the author from an extreme position. Criticism is the interpretation and theory of that Experience which Science simply takes for granted, not the invalidating of it in any respect essential to Science. Philosophy must analyse the ultimate fact of knowledge, and exhibit its inner constitution: it cannot, like Science, simply accept the fact in all its complexity. It is only by thus submitting the distinctions of scientific knowledge to philosophy that they can be overcome. The "Noumenism" of Science, for example, is not the final or philosophical Noumenism. It is said by Mr. Abbot to "repudiate the fundamental dualism" of Phenomenism, but it is only for the other dualism of Thought and Being, Things and Relations. *E.g.*, "it is the great merit of

the new Scientific Realism to treat things and relations as two totally distinct orders of objective reality, indissolubly united and mutually dependent, yet for all that utterly unlike in themselves" (p. 128). The theory is thus landed in hopeless contradiction. For we are told two pages further on that "it may be taken as a generally conceded truth that nothing is intelligible except relations," and again (p. 135) that "nothing is known of the universe *per se* except its immanent relational constitution". If these statements be true, they take us back to the standpoint of "Phenomenism," and we must still conceive the Noumenon as an 'unknown and unknowable' thing-in-itself behind phenomena. Such contradictions serve to carry home the lesson that the only way to arrive at a satisfactory theory of the Noumenon, or indeed of Knowledge as a whole, is by submitting to philosophical analysis the prime characteristic of Knowledge and of Reality alike, namely, *Relation*. Mr. Abbot has done well to seize upon this, and to signalise its supreme importance. But he has not realised its essential nature. He recognises indeed that "relations as such are the specific and only direct objects of the intellect or understanding" (p. 90). Yet he conceives of Knowledge as "an objective synthesis of real relations in a universe independent for its existence on human consciousness" (p. 80). But "relations" are not independent of consciousness, and if they constitute the world of knowledge, that world is no less dependent upon consciousness. Relation *is* thought or consciousness. Hence Mr. Abbot's position is virtually that of Idealism: and what prevents his realising this is the above-mentioned misconception of Idealism as a necessarily individualistic or even sensationalistic theory of knowledge.

It is on this philosophical foundation that Mr. Abbot builds his theistic argument. Its "corner-stone" he calls the principle of "the infinite intelligibility of the universe" which follows from its "immanent relational constitution". Now "that which either discovers or creates relational systems or constitutions" is intelligence. Therefore the universe itself, being "infinitely intelligible, must be likewise infinitely intelligent". "The intelligibility or relational system of the universe, considered as an effect, must originate in the intelligence or creative understanding of the universe, considered as a cause" (p. 151). "The universe *per se* is an infinite self-conscious intellect, which, though infinitely removed in degree, is yet essentially identical in kind with the human intellect. This result, then, is the constitutive principle of Scientific Theism; and I see no way to escape it, except by repudiating the scientific method itself" (p. 156). But a consideration of the nature of the universe leads to a closer definition of the theistic idea. Its characteristic feature is system; but a perfect system is an organism: therefore the universe must be conceived as an "infinite organism". This conception, again, leads to the true view of evolution. "It is shallow and poverty-struck

thinking which conceives that God is originally not infinite self-consciousness, but merely comes to a finite consciousness in men; and which thus fails to see that the evolution of the universe-object, as intelligible system, is explicable only by the universe-subject, as intelligent origin of that system or infinite creative understanding" (p. 168). Because the "infinite organism manifests infinite Wisdom, Power and Goodness, or thought, feeling and will in their infinite fulness, and because these three constitute the essential manifestations of personality, it must be conceived as Infinite Person, Absolute Spirit" (p. 209). The same inference is made from the principle of teleology, stated very well in the "strictly natural and purely organic" sense of "scientific philosophy," a sense, however, which is not "new," but as old as Aristotle.

While there is much that is valuable in this argument, yet, taken as a whole, it is a necessarily unsuccessful attempt to combine the heterogeneous notions of Organism and Self-consciousness. The author says that "the further question, whether this idea of God is Pantheism, is a question of the proper definition of the word": "it certainly holds that the All is God and God the All". There is no doubt that Mr. Abbot himself holds to the theistic position; but the question remains whether he has a right to it, while he retains a conception of the universe as a whole which is radically inconsistent with theism. Still, though we must demur to the general drift of the argument, it is only right to acknowledge the marked ability of certain parts of the discussion, as the remarks on the necessary function of "Anthropomorphism" in thought, the proof of the generic identity of all Intelligence, finite and infinite (p. 148), and the account of the true nature of the distinction between the "immanence" and "transcendence" of God (p. 213).

James Seth.

La Psychologie du Raisonnement. Recherches expérimentales par l'Hypnotisme. Par A. Binet. Paris: F. Alcan, 1886. Pp. 171.

The fusion of mental pathology and mental physiology, to use Dr. Maudsley's terms, is proceeding apace in France. M. Binet's volume follows close on the trilogy in which Prof. Ribot has dealt so ably with the diseases of memory, of volition and of self-consciousness, and has been itself followed by Dr. Ballet's study on diseases of language. All these writers have the merits which we expect in natives of France: clear views clearly expressed, apt illustrations deftly applied, a march of argument admirably fitted both for exposition and persuasion. Whether they have not also the defects of these qualities,—chief among which may be named a certain impatience at residual phenomena which refuse to submit to their formulæ,—need not be here discussed. It is more to our purpose to recognise these merits in their full force in M.

Binet's present work. Nothing could be more trenchant than the manner in which he presents to his readers views which, if less novel in the country of Herbert Spencer than in his own, yet in their *ensemble* have never been so forcibly expressed on either side of the Channel.

The central position among these is held by the doctrine that perception and reasoning are practically one and the same mental process. This posited, any elucidation of perception will serve to clear up the psychology of reasoning, and it is such elucidation that M. Binet offers us. Readers of MIND will readily guess the sources whence he draws his light-giving materials. His studies in hallucination, and especially in hypnotic hallucination, have formed some of the most interesting psychological material that has recently been given to the world. Thus hallucination or false perception is to throw light on perception or veridical hallucination, and this in its turn is to elucidate reasoning, which, according to our author, is but perception long drawn out. The common term in all these is the "image," under which conveniently loose term our author includes all the elements of mind. For from the physiological point of view sensation and image vary only quantitatively: their local habitation is the same. And from the psychological they differ but intensively, so that we come at last to a practical identity of the two: "l'image est presque une sensation" (p. 128). It may be said at once that the weak point of M. Binet's argument is here. It is only by ignoring the sensational element in perception that he is enabled to draw so close a parallel between perception and reasoning.

But let us take his points more in order. After defining perception as a completion of impression by images of previous similar impressions, he has an interesting digression on the various degrees of prominence of different classes of images in individual minds. He distinguishes four types: (1) minds in which visual images play the leading part; (2) those in which auditory ones are predominant; (3) cases where motor representations are the favourite furniture of the mind; and (4) indifferents in which all three exert equal influence. This division of men into visuals, audiles, motiles and indifferents, as we may respectively call them, is of great interest and importance. This along with other individual differences may serve one day to throw light on what we may term psychologists' psychology. One example of difference of psychological theory due to difference in psychologists' minds is given by M. Binet. Stricker, a motile, declares that it is impossible to represent to ourselves other vowels while pronouncing any particular one, say *a*: he can only represent them as motor images which clash with the motor presentation. M. Paulhan, an audile, declares he can easily do what Stricker declares impossible, for he can represent the auditory images of *i* and *u* while the motor presentation of *a* is being presented. Psychologists need clearly to take account of their 'personal equation' as much as astronomers.

We next pass to a study of images generally, and here Mr. Galton's studies do M. Binet yeoman's service. He is thereby enabled to give the gradations from impression to after-image, from after-image to memory-image, and from this to generic image. But M. Binet is not content with merely repeating previous observers: he has much of interest to add from his own special work, and this part of the book is filled with interesting details which recall the days of Abercrombie and Carpenter and what we may style anecdotic psychology. Most of these anecdotes have been published before by M. Binet, but he now brings them to bear with considerable skill on the theory of perception. He claims that this has been considerably advanced by the study of hallucination, and this is of course a favourite thesis just now with Prof. Ribot and his followers. Yet it would be difficult to point to any specific point in which our knowledge of the normal processes in perception has been advanced by a study of its abnormal conditions. Of course these latter serve as excellent illustrations, and enable us to show the elements of a complex in separation or with differing intensity. But it is doubtful whether we should recognise that these were part of the same complex unless we had observed the fact under normal conditions. The appeal is rather from the abnormal to the normal than *vice versâ*.

As a matter of fact in the case before us, the use of mental pathology seems to have confused rather than aided the study of the normal processes. What strikes one in hallucinations is the intolerable deal of imagination that clusters about the slightest scintilla of sensation. A few inequalities in a piece of cardboard are sufficient to form a *point d'appui* for a likeness of the hypnotised patient who projects it upon the cardboard at the suggestion of the experimenter. But, small as is the modicum of sensation needed, there is always some: the more uniform the cardboard, the less chance of the portrait being projected (p. 57). Again, in the experiments of M. Binet the experiment*ees* were hypnotised, or, in other words, their power of voluntary attention was dormant and that of involuntary attention was only capable of being centrally initiated by suggestion. But it is easy to see that, if only by a mere process of natural selection, an animal would learn to concentrate attention on the external sensation which came to it provided with local signs, and thus to subordinate the "images" which enable it to bring its former experience to bear on the presentation of the moment. In illusions and hallucinations the subordination is the other way. Thus, by looking at the subject from the point of view suggested by his hypnotic experiments, M. Binet is tempted to neglect the essential difference between the objectified sensation and the concomitant "images" and to leave out of account the action of attention. It is only by this means that he is able to assume the identification of perception and reasoning which forms the main thesis of his book.

This identification he symbolises in a very suggestive way.

We have the visual sensation of a book (A), and we find connected with it certain "images" of touch (C). We are enabled to have this, he says, because the sight of the book is associated by similarity with the image of previous sights of the book, A = B, and this image is identified with the sensation by a "law of fusion" which changes A = B into the synthesis (A = B), where the parentheses represent the fact of fusion. Now B or the image of the book has associated with it by contiguity certain tactile "images," B – C (where the dash represents the fact of association), and thus we are enabled to perceive that the book is smooth, which is symbolised by (A = B) - C. Just at present we need only remark that it seems a question-begging use of the word "perception" to apply it to the result of this process, which is rather a judgment. The perception consists surely in the process symbolised by M. Binet as (A = B), which, if it resembles a judgment at all, resembles what Lotze calls the impersonal judgment. And indeed the chief value of M. Binet's theory consists rather in this recognition of a synthetic process, his "law of fusion," though he leaves out of account the consideration of the question: What is it that fuses?

M. Binet then applies the same analysis and the same symbolism to the syllogism and is thus enabled to get an almost exact parallelism in the two processes thus:

Perception.	*Reasoning.*	
(A = B)	B – C	*i.e.* M – P
B – C	A = B	*i.e.* S = M
(A = B) – C	(A = B) – C	*i.e.* (S = M) – P.

Our author goes on to point out that Mr Spencer has given reasons for transposing the premisses, and, accepting this, the formulæ for perception apply in every way to those of reasoning. Three images succeeding one another, the first raising the second by resemblance and the second suggesting the third by contiguity: this is the type both of perception and of reasoning. The force of simplification could no further go: but at what a cost has it been obtained! Much, if not most, of what is distinctive of the two processes has been ruthlessly lopped in order to procure the identification. Even waiving for the moment the point raised above, whether the process called "perception" by M. Binet has not been expanded into a judgment of which one term is a percept, all the objective reference in perception is left out of account. The localisation and projection of perception has nothing analogous in reasoning, and indeed the most marked difference between the two might be summed up in the externality of the one and the inwardness of the other. There must be a sensation in the former which should not be confused with image. Then again M. Binet owns that the middle term of the perceptive syllogism never enters into consciousness while it is explicit in logic. Language is necessary for reasoning; it does not enter into perception: this is only of secon-

dary importance, thinks M. Binet; but that is solely because he has eliminated from his analysis attention which is involuntary in perception, voluntary in reasoning. We might compare the series of percepts to those "tapes" frequent in stockbrokers' offices, in which the winner of the Derby is followed by the price of consols, that again by the dividend of the Suez Canal, this by the prospects on the Home Rule Bill, that by the betting for the Oaks, and so on. The thought-series brings these items into connexion by doubling the tape so as to bring the betting on the Oaks in connexion with the winner of the Derby, the price of consols with the Home Rule Bill, and so on. It is this doubling, this active relationing of thought and reasoning, which constitutes the main difference in the two functions, and M. Binet has been unfortunate in choosing as his type of reasoning the syllogism which for logical purposes supposes all this psychological process of active relationing to be concluded and premisses to follow one another with mechanical regularity.

Taking all these divergences into consideration, we must hold that the proposed identification of perception and reasoning is illusory, nor can we look forward, with M. Binet, to any elucidation of the reasoning processes from the hallucinations of hypnotised patients (p. 140). It is true that for his identification he has the weighty authority of Mr Herbert Spencer, but under somewhat different circumstances. We are too apt to forget that the *Principles of Psychology* scarcely answers to its title, and deals rather with the principles of evolution as illustrated by the growth of mind. Mr Spencer's object is to prove that his familiar formula about homogeneity and indefiniteness and the rest applies to all the processes of mind. For this purpose he insists, and has perhaps the right to insist, on any point of resemblance which enables him to connect one mental process with another. Besides for philosophical purposes the law of parsimony comes into operation, and a philosopher is in the right to minimise his generalisations. But if psychology is to become a science, quite as much regard must be paid to the differences in the mental processes as to their similarities. The influence of the doctrine of evolution is particularly misleading in this connexion: its assumption of a gradual shading-off of one process into another gives too often encouragement to a somewhat slovenly identification of the two. However identical in germ, they have been differentiated in development. And when we ask by what principle they have been differentiated in the past we reach a fundamental difference of standpoint which may perhaps explain and excuse the polemical attitude here taken against M. Binet's book, admirable as it is in so many of its details, and indeed in its general conception, if we judge it merely from its own point of view. In a concluding passage M. Binet recognises that his exposition reduces mind to an association of images, the only activity recognised being that of the images. Though at times he gives a bare mention to Attention,

it plays no part in his exposition. We here reach what seems likely to be the *champ de bataille* in English psychology, now that Mr. Ward, in his article "Psychology" just contributed to the *Encyclopædia Britannica*, has posited with such insistence the claims of attention as the active principle of mind. We shall all soon have to select under which banner—Attention or Association—we shall fight: but the side we choose will probably be determined by one of those individual differences of attitude which met us at the beginning of M. Binet's book. As there are visuals, audiles and motiles among men, so there are some who can regard themselves as floating down the stream of their own consciousness, while others prefer to think that, notwithstanding the influence of wind and tide, they direct their own course. M. Binet, by his present work, seems to range himself with the former. But there is a passage in his book (p. 53) which indicates that he feels the weakness of his position: "Quand on a prononcé ce grand mot d'association on pense avoir tout dit. C'est un tort."

JOSEPH JACOBS.

Die Philosophie der Erlösung. Von PHILIPP MAINLÄNDER. Zweite Auflage. Berlin: Theodor Hofmann, 1879. Pp. viii., 623.

(*Die Philosophie der Erlösung.* Zweiter Band.) *Zwölf philosophische Essays.* Von PHILIPP MAINLÄNDER. 5 Lieferungen. Frankfurt a. M.: C. Kœnitzer, 1882-6. Pp. 655.

Ph. Mainländer was a disciple of Schopenhauer, who in a manner at once original and consistent with his master's principles had worked out a doctrine that may be regarded as the completed type of pessimism, when, in 1876, his early death occurred before the appearance, in that year, of his first volume, entitled *The Philosophy of Redemption*. His *Twelve Philosophical Essays*, of which the last was not published till the present year, were intended as a sequel to that work, and the volume which they fill bears the same title. As the two volumes are not only in name but in reality parts of a single work, it seemed desirable to wait for the completion of the *Essays* before any attempt was made to give a survey of the author's philosophical system.

This system, although it is especially deserving of the attention of those who are willing to face a philosophical argument ending with the proposition that "the knowledge that life is worthless is the flower of all human wisdom," is at present quite unknown in England. The best mode of exposition, therefore, will be to give first an outline of Mainländer's whole work, and then of his doctrine, unaccompanied by any criticism except such as is necessary in order to bring out its distinctive character.

Of the volumes that contain all we shall now have of Mainländer's philosophy, the first consists of *The Philosophy of Redemption* itself (pp. 1-358) together with an Appendix in which the author explains, by detailed criticism, his relation to Kant and

Schopenhauer, whom he regards as the two greatest of all philosophers. The division into "Theory of Knowledge," "Physics," "Æsthetics," "Ethics," "Politics" and "Metaphysics" is carried through both parts of this volume. The *Essays* that make up the second volume are arranged under two principal heads—"Realism and Idealism" (i.-vii.) and "Socialism" (viii.-x.). In the essays of the first group the relation of the author's system to Brahmanism, Buddhism and Christianity—the three pessimistic religions—is explained. The second group is followed by two essays entitled "Gleanings" (xi.) and "Critique of Hartmann's Philosophy of the Unconscious" (xii.). This last essay fills the whole of the fifth published Part of the volume. Its aim is to show that Hartmann is in error in returning to a pantheism that makes the whole world "a real unity"; the true direction of thought being to develop further Schopenhauer's doctrine of the *individual* will as thing-in-itself, which requires that the world should be regarded as only "a collective unity," no longer as the manifestation of a single will or spirit.

The later portions of Mainländer's work show no falling off, but on the contrary an increase in power. And, as might be expected, he finds it possible in a series of essays to say many things that could not be got within the more rigid framework of a systematic treatise. Following the *Essays* there was to have appeared an Autobiography; but instead of this there is now promised (as mentioned in the last number of MIND) a memoir of the author, by his sister, who has superintended the publication of the whole of the second volume. Those who have read any portion of his work will look forward with interest to the appearance of the promised *Lebensskizze*, for Mainländer is one of the writers who awaken the desire to know something more of their personality than can be gathered from their books alone.

Prof. Wundt, indeed, in his brief reference to *The Philosophy of Redemption* in MIND, Vol. ii. 510, seems to be of opinion that its interest is entirely that of an expression of personality; classing it among pessimistic speculations that are "guided more by feeling and temperament than by scientific method". This remark perhaps has reference to the absence of any elaborate attempt to balance pleasures and pains or to deduce the pessimistic conclusion from the negative character of pleasure. It may be contended, however, that this is an evidence of the author's profoundly philosophical conception of the question as to the worth of life. While Schopenhauer and Hartmann proceed by indirect methods, deductive or inductive, Mainländer puts the question directly as one that is to be solved by subjective reflection. Having arrived at his own conclusion, he appeals for confirmation to the philosophies of India. What was the result, he asks, when for the first time a philosophically trained class was able to escape from the struggle for existence and to gain complete leisure for contemplation? The result was necessarily the pessimism of the Brahmans. Now this is a powerful his-

torical argument. And if it is said that Mainländer's own pessimistic conclusion depends ultimately not on any argument of this kind but on temperament, it may be replied that any other conclusion depends on temperament in just the same way; that subjective reflection is in the end the only possible criterion of the worth or worthlessness of life. Apart from the view that may be taken of Mainländer's attempted proof of his pessimism, there does not seem to be any ground for the unfavourable inference that might be drawn from Prof. Wundt's incidental remark. The theoretical basis of the system, as a whole, cannot be said to show any want of rigorous logical connexion.

The Philosophy of Redemption opens with the unconciliatory announcement that the author has been the first to establish atheism scientifically. The doctrine that Mainländer calls atheism is a theory of the emanation of the universe from a "pre-mundane unity" that no longer exists. "God is dead, and his death was the life of the world." The atheistic character of this theory, as the author understands it, consists in its not admitting any "real unity" now existent "*in* the world," but only a "collective unity" of "real individuals". The individual beings that compose the world are not absolutely independent, but "semi-independent". Their connexion with one another and their being constrained as by an external power proceeds from their having once been parts of the pre-mundane unity. This connexion of things is, as it were, a "divine breath" blowing through the world from the "dead godhead". All things have their origin in what may be called anthropomorphically the "will" of the absolute being that existed before the world to annihilate itself,—an end which could only be attained by the "becoming" of actual existence. From the primitive act of the no longer existing unity springs the total movement or "fate of the world," which makes it as if the collective unity now alone existing were "a simple unity with a single movement" to annihilation.

The real beings that make up the world are "forces," manifesting themselves objectively in motion, subjectively as "individual wills". For Schopenhauer these were manifestations of a "will to live"; and it is true that in the animal kingdom, and still more in man, will has the appearance of being an effort to persist in a specific mode of life. In physics, too, the law of the "conservation of force" (Erhaltung der Kraft) is the expression of a will to live. But when we go deeper, the will to live is seen to be always "the phenomenon of the will to die". The more profound law of the "weakening of force" (Schwächung der Kraft) is still manifest, not only in molecular movements as viewed directly by physics, but in the cycles of animal and vegetable life. Again, in geology, it is manifest in the gradual dwarfing of all living forms. In the evolution of organisms, however, the will to die becomes more and more masked under the appearance of the will to live. Life, the means, has come to be preferred to death, the end.

Nevertheless, in the struggle of organisms to maintain them-

selves, the weakening of force becomes more and more rapid, and thus the ultimate end is more effectively promoted. This is seen especially in the history of human civilisation, under its forms of "social friction" and the growth of intellect. "Civilisation kills"; and by its universal diffusion the weakening of force will be carried to its limit. In philosophical reflection, which begins when civilisation is sufficiently advanced, the "will to die" again becomes conscious of itself. The will of the sage becomes identified with the movement of the whole world towards annihilation. He desires consciously the end to which all beings are impelled by a desire that is deeper than their desire for continued life. To this end, as has been seen, they move the more rapidly the more they seek to avoid it; for the putting forth of activity, by reason of the obstacles that resist it, only brings activity to an end the sooner. Yet it is destined that in all men the will to live shall at length disappear and give place to a full consciousness of the profounder will to die.

For this result, the attainment of an ideal State is necessary. There are, indeed, a few who can find redemption in any State; but the mass of mankind can only be redeemed in a State where education and leisure and possibilities of enjoyment are the common lot. To see the vanity of all things, they must first have experienced all things. It remains, therefore, in some sense a duty of those who have already discovered the worthlessness of existence to promote social reform, in order to hasten the advent of the ideal State; which, however, will inevitably arrive sooner or later, although the efforts of individuals may promote or retard it. When the ideal State has been attained, the emptiness of existence will fully reveal itself. Only one longing will now fill the heart—"to be struck for ever out of the great book of life," and, since a stationary state is impossible, this desire will be satisfied. The final description of the movement of human history as a whole, is therefore not "movement towards the ideal State," but "movement from being to not-being," and in it the movement of the whole world is consummated.

It will have been observed that much of Mainländer's cosmical system is the translation into subjective and at the same time highly abstract terms of real scientific generalisations. Sometimes he is even more in agreement with accepted science than he thinks. The law of "the weakening of force," for example, is placed by him in opposition to the law of "the conservation of force," as he supposes it to be understood by physicists. If for this last expression the more accurate expression "conservation of energy" is substituted, the law of the "degradation of energy" at once suggests itself as the physical analogue of Mainländer's "weakening of force". And some physical speculators, assuming, like Mainländer, a finite universe situated in infinite space, have shown how, according to the law of the degradation of energy, all the bodies in the universe must at length collect into a single mass from which all motion will have disappeared.

That such a state of "integration" as this is the absolute end does not, however, of necessity lead to the conclusion that it is a duty to promote this end. An optimist like Mr. Spencer may think it probable that "dissolution" (which comes to the same thing as a final "integration" so far as man is concerned), if not the end of the whole cosmical movement, is the end of each particular cycle; and may hold it a duty to co-operate with the evolutionary movement, in spite of its always being reversed. Yet, so far as the actual course of things is concerned, it is evident that Mainländer has just as good a case as the optimists.

As Mainländer himself sees, the dispute between the optimists and the pessimists must be decided, in the last resort, by a direct consideration of the ends and impulses of human nature. What he holds to be the answer of all the wise, when the question is brought upon this ground, we have already seen. In his own vivid phrase: "Life is hell, and the sweet still night of absolute death is the annihilation of hell". The deepest impulse of man, as of all other beings, is "the will to die," and the highest happiness attainable is in the thought of the cessation of existence. From this he draws the logical consequences. The promotion of social and political reform, although praiseworthy, is not an absolute duty. Those have greater merit who are impelled by pity for humanity to promote directly in others that "transformation and kindling of the will," by the knowledge that "not-being is better than being," which culminates, not in mere indifference to death but in "the love of death". And, finally, the solution of the problem rests with the individual. The highest virtue, therefore, is absolute chastity; for by it the individual, so far as he is concerned, solves the problem for the race. *The Philosophy of Redemption* does not commend, but neither does it venture to condemn suicide. It is better, Mainländer says, to remain in life in order to help in the redemption of the rest of the human race; yet the sense of the worthlessness of life, and the longing for the repose of annihilation, may become too great for endurance (vol. i. 349-51; vol. ii. 218). All mankind, good and bad alike, are to be consoled by the knowledge that, for the individual, death is a final redemption. The philosopher who has dedicated himself to the service of truth alone cannot avoid the duty of proclaiming this.

Mainländer traces his pessimism not only to the religions and philosophies of India, but also, like Schopenhauer, to Christianity. "Pure knowledge," he says, "is not the contrary but the metamorphosis of faith." On the theoretical side, he connects his own philosophy most closely with Christianity. Brahmanism, because it asserts a unity "*in* the world," seems to him to be most in error. For this pantheistic doctrine makes individual beings, which alone are real, mere instruments of the All. Buddhism is in error too, in that it affirms, by its doctrine of Karma, "the omnipotence of the individual". This doctrine, however, although affirmed in a one-sided manner by Buddhism,

is at bottom perfectly true. For each individual being, when it was part of the no longer existing "transcendent sphere" of "simple unity—repose—freedom," willed all that now happens to it in the "immanent sphere" of "multiplicity—motion—necessity". In the reality of things, that is to say, nothing happens to any being in the world that has not been willed by that being. But Christianity expresses the truth that is in Buddhism while not excluding the truth that the pantheism of the Brahmans failed in its attempt to express. In making the individual only "half-independent" it recognises "the fate of the world," the "real relation" in which things stand to one another. That there is a constraint exercised on the individual will as if by an external power—which appears to the undisciplined mind now beneficent and now terrible—is the truth that is contained in all theism. The error is in attributing this constraint to a personal God existing "*beside* the world". This is the error of Judaism, but not of Christianity. The personal God of Christianity was in reality a concession to Jewish monotheism, as its doctrine of a future life was a concession to the insufficiently tamed Jewish vitality. "Esoteric Christianity" is atheistic; in a veiled form it teaches the doctrine of the self-annihilation of the godhead that existed "*before* the world": and the real reward of the Christian virtues is the "beatitude—felt as contrast through reflection—of not-being". This meaning of Christianity is developed in a remarkable essay on "The Doctrine of the Trinity" (vol. ii. 190-232). As characteristic examples of Mainländer's interpretations of Christian theology, it may be mentioned that in his view "the Holy Ghost is the way of God to not-being," and is identical on the one hand with "the fate of the world," on the other hand with "the Christian virtues" by which that fate is directly accelerated; while "Satan is the personified means to the end," "the wild struggle of individual wills".

Those to whom this seems mere paradox should read the essay; perhaps they will be rewarded by learning the secret of pessimism. Of one thing there can be no doubt; and that is, Mainländer's really strong sympathy with Christian theology and with the Christian view of life in what some may call its exaggerated, others its distinctive form. It is not to Catholic organisation that he is attracted, but rather to the mysticism and asceticism of the Middle Age, to Catholicism as a personal religion. Mixed with this kind of mediæval reaction there is a larger infusion than is to be met with in the ordinary mystic or ascetic of the "pity for humanity" characteristic of Christianity and Buddhism in their origin. It is this that gives Mainländer his sympathy with the revolutionary movements of modern times. Here, however, he makes a reservation in favour of German patriotism. A "cosmopolitan ideal" such as socialism is not to be pursued in the immediate future. It must be kept in view by those who aim at an ideal state; but in the meantime the first duty of the citizen is to be patriotic.

A rather obvious cause of pessimism is suggested by the passages in which Mainländer, while contending for the necessity of the burdens and restrictions imposed by the State, places them among the serious evils of life. It suggests itself that the pessimism of the Hindus was not really a discovery they made because they had leisure to see the vanity of things, but was due to their want of political freedom. This suggestion would find support in an appeal from India to Greece. Such a merely external cause as political circumstances, however, is not satisfactory as a final explanation. Pessimism must also have its internal cause. What kind of temperament is it, then, to which reflection seems to reveal nothing but "the intrinsic worthlessness of existence"?

It is remarkable that all systematic as distinguished from episodical pessimism, all pessimistic philosophy, is associated with a more or less strong Mediævalism. Some one may object that there is no mediæval reaction in Leopardi. To this the reply is that Leopardi was not a genuine pessimistic philosopher. The underlying philosophy of Leopardi is a certain combination of elements derived from ancient philosophy and culminating in the antique ideals of the individual and the State. His "pessimism" is really a sceptical despair of the realisation of these ideals; and at intervals (at least in the poems) it almost disappears. A genuine pessimist, besides, does not protest against Nature and Fate, but like the Buddhist and Christian saints (as Mainländer shows) holds himself to be in harmony with the tendencies of the sum of things when by "the slow suicide of asceticism" he seeks the only end that appears to him desirable. Mainländer's "esoteric Christianity" is really what he represents it to be—Christian asceticism made its own reward. He has simply given a well-compacted foundation, of the most modern materials, to what is essentially the mediæval view of life.

To point out its causes is not, of course, to refute Mainländer's pessimism. It may be that the Hindu philosophers and those modern Europeans who are most in sympathy with the Middle Age are those who have most successfully taken into themselves the results of the experience of large and complex societies continued through a long succession of years. What has been said is only intended as an aid to the statement of the question. The conflicting views of life, we now see, are, on the one hand, that for which the dictate of the highest wisdom is to suppress the personality, on the other hand, that for which to maintain the personality is the foundation of all virtue. And what their opponents should seek to establish against the pessimists is—not necessarily that the sum of pleasures in life is greater than the sum of pains; but that life, by moments, has a positive value, and that these are not the moments in which the personality is approaching extinction, but those in which it has the fullest consciousness of maintaining its own being.

T. WHITTAKER.

Allgemeine Ethik. Mit Bezugnahme auf die realen Lebensverhältnisse pragmatisch bearbeitet von Joseph W. Nahlowsky. Zweite, verbesserte und vermehrte Auflage. Leipzig: Veit & Co., 1885.

The aim of this work, which the author did not live to see published in its improved and enlarged form, is to bring the principles of Ethics into closer connexion than is commonly done with practical life, and to give equal prominence to its social and to its individual aspects. The standpoint is definitely and consistently Herbartian. The book brings out so clearly the peculiar Herbartian views of the connexion of Ethics with Æsthetics, and of its disconnexion with Metaphysics, and it is so thorough in its attempt to show the practical application of the ideas elaborated, that it is worth while to draw attention to some of the leading features of the system expounded.

"The complete separation of practical philosophy from theoretical is," according to the author, "Herbart's great achievement." Metaphysics starts with the notions of experience, and the inherent contradictions in these notions require that they be manipulated and criticised. From this procedure, that of Ethics is doubly distinguished. In the first place, it starts with something certain—always and unchangeably valid—namely, the self-evident judgments of preference or the reverse pronounced upon the simplest relations of will. In the second place, it does not start with the real of experience, but with the ideal, which is entirely independent of experience. Ethics, the author thinks, is connected with metaphysics only by a "stiff-necked" generation, unwarned by previous failure, and misled by the false idea that all departments of philosophy follow from one fundamental principle.

Yet if one considers the matter, perhaps it will appear that this dismemberment of philosophy is due to a peculiarity of the Herbartian metaphysics. The facts of human action and the ideals it aims at are excluded from metaphysical treatment by Herbart. But they are a part of that whole of experience which a more comprehensive metaphysics takes acccount of: even although they may not involve the contradictions implicit in the notions of experience with which Herbart starts. This leads to the element of arbitrariness almost in the author's other distinction between Ethics and Metaphysics. Herbart insists that the notions experience gives rise to—say, of space and time—require manipulation and transformation; while the ordinary notions of right and wrong are said to be clear and self-evident and to stand in need of no parallel process of sifting; and in the same way Nahlowsky affirms the invariability and universal validity of ethical ideas. No reference is made to the contradictions of the ordinary moral consciousness disclosed by a systematic elaboration of ethical notions such as that carried out by Prof. Sidgwick. This is the more to be regretted, as the greater portion of the

Methods of Ethics is occupied with the examination of an ethical theory which has many points of resemblance to that worked out by Nahlowsky.

The English "Intuitionists" claim universal validity for moral ideas, and defend the immediateness of the moral judgment in a way which closely resembles Herbart's. But they tend to an intellectual view of the moral consciousness which is alien to his, and to assimilate it to jural rather than æsthetic conceptions. This is perhaps the reason why the points of similarity between the ethical theory of Herbart and that of the English moralists have never been sufficiently emphasised. Trendelenburg indeed, in an interesting essay (*Historische Beiträge zur Philosophie*, iii. 122 ff.) points in this reference to Adam Smith's doctrine of the sympathy of a disinterested spectator as the criterion of a moral act, and to Hume's discussion of the relation between sentiment and reason. By means of the latter, Trendelenburg says, sympathy may be changed from a mere sensation as it was with Smith, into a conception of harmony such as we have in Herbart. But yet he concludes that "Herbart was the first for whom Taste was the practical law-giver," and that the fundamental notion of Herbart's Ethics—the idea that "practical philosophy is a part of æsthetics"—was original to him. Trendelenburg, however, does not go far enough back in tracing the descent of the ideas elaborated by Herbart. Smith and Hume were, in their views of morality, the lineal successors of Shaftesbury and Hutcheson, both of whom were dominated by the æsthetic conception of morality. In Hutcheson specially, and particularly in his early *Inquiry into the Original of our Ideas of Beauty and Virtue*, the perception of the morally good is expressly put on the same level as that of the beautiful or artistic, and the doctrine of the "moral sense" is explained in a way which gives it close affinities with the "judgment of taste" which is the Herbartian criterion both of beauty and moral good. The distinction between ethics and æsthetics (in the narrower sense) is indeed much more clearly drawn and moral principles generally more consecutively worked out in Herbart than in Hutcheson. Yet Herbart's fundamental view of the position of ethics might have been suggested to him by the earlier thinker.[1]

No clearer statement of the Herbartian position on this question could be wished than that given by Nahlowsky. Ethics and Æsthetics agree, he argues, in that both the beautiful and the moral please absolutely; in both too the satisfaction depends on the completed presentation of a certain relation of connected members; and both prescribe an ideal to be realised: hence they are both practical and have imperatives.

[1] Herbart refers to Hutcheson, *Werke*, viii. 242, but not in a way that implies knowledge of Hutcheson's writings at first hand. There may, however, be other references.

The datum with which Æsthetics starts is worth or value as determined by praise and blame, and the problem of the science is to define the essential in these determinations of worth, and to fix a final standard of the good and beautiful. These notions of good and beautiful are not relative or utilitarian, but their validity is "for all people and all time unchangeably the same". "The good is good in and through itself; the beautiful is in and through itself beautiful."

The æsthetic judgment is unique among mental phenomena. The predicate of the judgment of taste is not a notion but a mental condition—a sort of "inner resonance" which the subject-notion awakes in the mind. Further the æsthetic notion is not a relation of what is, but a practical decision as to value. It arises from the concurrence of thought and feeling. The understanding must make clear the subject of the judgment; feeling supplies the predicate. Again, the æsthetic judgment does not result from desire; for it is permanent whilst desire fluctuates.

The next question that arises is as to the subject of a fundamental æsthetic judgment. It cannot be a simple element of presentation, for the single colour or tone is aesthetically indifferent: it must be a relation. These æsthetic judgments neither need nor admit of proof. But it is only to the fundamental or root-judgments that certainty applies, while conflict among æsthetic judgments comes with complexity. In order then to get at a valid æsthetic judgment it is necessary to have a complete presentation of the object, to analyse it into its elements, and in thought to build it up again out of these elements; and it is further necessary to avoid the subjective tendencies, which, in the form of artists' or critics' individuality, lead to conflicting judgments.

What is said of Æsthetics holds of Ethics, "the most sublime of the arts". Ethics is distinguished from the wider sphere of Æsthetics in that it is concerned with the beautiful in willing (or in mind) only, and thus implies the notion of personality. This implies the further distinction that the value of the moral product belongs to the producer or agent, whereas the beautiful work of art becomes independent of the producer. Finally, æsthetic imperatives are hypothetical, those of morals categorical. Nahlowsky is undoubtedly right in pointing to personality as the fundamental notion through which morality becomes intelligible; and we may say, if we like, that the moral is the beautiful in willing, or in those habits of willing which have become consolidated into character. But this conception can only yield fruitful results, when the notion of personality has been analysed and its content exhibited.

Ethics, then, starts with unconditioned judgments of value upon volitional relations. Its object is the image of a definite volitional relation in pure objectivity. This gives rise to an immediate judgment of approval or disapproval; and to each

fundamental relation there corresponds a typical notion or practical idea.

The treatment of the original practical Ideas occupies the first book of the second part into which Nahlowsky's *Ethik* is divided. The second book of the same part works out in interesting detail the derived or social Ideas. The sole appropriateness of Herbart's five practical ideas is indicated in the following way. The definite individual will must either stand related to the generic image of a typical will, or to another individual will. In the former case we have the Idea of Inner or Moral Freedom; in the latter case, the second individual will may be determined quantitatively only—giving the Idea of Perfection—or it may be qualitatively definite as well. In this case, the second will may, however, not be an active will, but only a presentation—and here the Idea of Benevolence applies; or it may be active, and in this event the contact of the two wills may be either unintentional and indirect—whence the relation of conflict and Idea of Right—or it may be intentional and direct, from which results the need of recompense and Idea of Equity.

The Ideas do not seem to me to have, in the way that the Herbartian Ethics admits of their being treated, that fruitful application to morality which the author supposes. The first Idea arises (it is said) from the relation in which the will agrees with practical insight or conscience, and this relation pleases unconditionally. The Idea of Freedom, therefore, is the type of a will subordinated to conscience. Freedom here does not mean psychological or political freedom, but moral freedom: "he only is morally free who follows the best reasons, that is, reasons derived from moral types". So far the Idea remains contentless. The first determination of what is moral is through the Idea of Freedom. But Freedom means moral freedom; and the morally free man is made to mean simply the moral man, or the man who obeys his conscience. The practical judgment is thus reduced to a fundamental form in which it has unconditioned validity and necessity, but only the necessity and the validity which belong to the analytic judgment or "trifling proposition".

The difficulty of extracting moral content from the Herbartian Ideas is exhibited most clearly when we come to the fourth Idea, that of Right. This indeed may be regarded as the *crux* of the whole theory. There is a generality in the notions of Perfection and Benevolence which saves them from the peculiar difficulty belonging to the two-sided idea of Right. They may be affirmed dogmatically, by the assertion that the circumstances they apply to immediately please or displease, without it being shown how they necessarily belong to the moral consciousness. But, in the case of Conflict, the difficulty is not only in the assertion that it is immediately displeasing: although this assertion is not without difficulty, and Nahlowsky devotes considerable attention to it. There is the further difficulty involved that the "displeasing"

conflict can be surmounted in two opposite ways which are not morally indifferent. If the wills A and B are both fixed on an object X, which can only satisfy one of them, it is of little importance to say that the conflict between A and B is immediately displeasing or morally wrong. It might well be maintained that not the conflict as such is displeasing, but the action of A or of B—or, in some cases, of both—in contending for the object. At any rate, the important question for morals is, How is the wrong to be righted? What rules can be given for determining whether A or B ought to submit, and where mutual concessions are required? The imperative "Thou shalt not strive" requires many modifications before it can be accepted as ethically valid. It may be a small matter that it opposes the tradition which "approves all forms of competition"; but it has also to take account of the elements in the moral ideal recognised by the ordinary consciousness which are often only to be attained or retained by means of conflict.

Nahlowsky's classification of the "fundamental cases" of conflict does not seem to exhaust the logical—or actual—alternatives: but it is not necessary here to go beyond the alternatives he deals with. In discussing his first "fundamental case"—that in which the object of strife is necessary to the physical existence or moral ideal of one of the contending parties—his analysis of Right falls back upon the notion of Freedom. "An individual," it is said, "is obliged to limit the external use of his freedom so as to admit of others following out their ends as persons." But the Freedom here implied is something different from that which forms the first Idea. And the richer notion of Personality is introduced to give at once content to the conflicting wills, and a solution of the conflict. Here, however, it would seem to be not the conflict which displeases, but the violation of another personality. The notion on which all morality hinges is, therefore, just this notion of personality: a notion which more than any other is in need of metaphysical and historical explanation. Yet such explanation is disallowed in this connexion by the author's fundamental position as to the independence of ethical science.

Other cases of conflict can hardly be said to be so treated by the author as to show the application of the moral Idea of Right to the complex region of disputed claims to things and services. Nahlowsky's Idea of Right is a typical order of individuals of such a kind that strife between them shall permanently cease. But this ideal is only attainable, and is only intelligible, by means of rules whereby to estimate competing claims and thus give a principle for deciding conflicts.

W. R. Sorley.

VII.—NEW BOOKS.

[*These Notes (by various hands) do not exclude Critical Notices later on.*]

Letters and Journals of W. Stanley Jevons. Edited by his WIFE. London: Macmillan, 1886. Pp. xi., 473.

Mrs. Jevons has here done almost everything that was possible to make the inner life of her distinguished husband known to those who knew him before only as the logician and economist, and better known to those who knew him as a friend of somewhat reserved habit. The Journal which Jevons began to keep as a lad, with the earlier Letters in which he freely expanded to the members of his own family, gives all the information that could be desired as to the course of his mental development; and the Letters of his maturer time—commonplace as the occasion of most of them is—are so strung together, with simple directness, by the editor that they not only show the inmost nature of the man but serve also to mark clearly the stages of a career of rare intellectual activity, so sadly broken off in the middle. Though not more eventful than the life of professors commonly is, Jevons's yet included one episode of an unusual character that brings strongly into relief the call he had to the work of thinking. At the early age of 18, while prosecuting college-studies in physical (chiefly chemical) science, he was suddenly offered, and in his circumstances was induced not to refuse, a post as mint-assayer at the other side of the world, with the result that by the age of 20 he had a handsome and assured income with plenty of leisure for the scientific pursuits in which he took delight. The temptation to resign himself to practical life in such easy conditions would have been too much for an ordinary man, but Jevons never faltered in the determination to get back to pure study as soon as he had put by a little hoard of savings for use. A thoughtfulness already manifested in him as a boy had in the meantime been steadily deepening, till the conviction began to dawn upon him, with a curious confidence, that he was marked out to do original work in the way of applying scientific methods to problems of human nature. When five years had passed at Sydney he, accordingly, cut himself free, and, after seeing what he could of Australia and of South and North America on the way home, took his seat again on the benches of University College, at the age of 24, determined first of all to complete his education by working up the variety of literary as well as scientific subjects necessary for the London B.A. degree. His Latin and Greek did not however divert him from the thoughts with which he had already more than half convinced himself that he was destined to revolutionise the theory of political economy; and, when after a year his ambition widened towards the M.A. degree in the philosophical Branch III., the instinct of the logician next began to stir within him, passing almost immediately into consciousness of a special task of reconstruction in logical theory also. From the age of 27 his twofold path lay clearly defined before him, and during the years of production that followed he is seen alternately pursuing the one line or the other with consuming activity till overtaken by his sudden fate. The story of the previous years, as told in Journal or Letters, has a peculiar interest because of the perfect light that it throws on the limitations as well as the strength of Jevons's remarkable work in the world. Mrs. Jevons has added a chronological list of his various writings, smaller as well as greater. In case it has been overlooked, it may be well to note the omission of the short reply he made, in MIND,

Vol. vi. 284-7, to some strictures hazarded in these pages on the opening of his polemic against Mill's philosophy in 1878. Concerning this polemic, it is not unimportant for Jevons's credit now to learn that it was first begun as far back as 1868 (or in thought even earlier, see p. 225), and might have been carried through in Mill's lifetime if "the editor of one of the leading magazines" had not declined to publish the three articles first written.

Historic Aspects of the A Priori Argument concerning the Being and Attributes of God. Being four Lectures delivered in Edinburgh in November, 1884, on the Honyman-Gillespie Foundation, with Appendices and a Postscript. By JOHN GIBSON CAZENOVE, D.D., Sub-Dean and Chancellor of the Cathedral Church of St. Mary, Edinburgh. London: Macmillan, 1886. Pp. x., 150.

In these Lectures,—which are not altogether philosophical in tone (see, for example, p. 105, where we are told what is likely to be the sentence passed on Agnostics at the Day of Judgment),—an attempt is made to trace the history of "the *a priori* argument for the Being and Attributes of God," by which the author means chiefly the conclusion from the idea to the necessary existence of a perfect being, "suggested by Plato, re-stated by Augustine, and elaborated by Anselm". He is unable to decide whether Anselm may not have borrowed hints from Scotus Erigena, "but have been unwilling to acknowledge the obligation on account of the bad reputation of Scotus Erigena on the ground of orthodoxy"; "since in all ages many great and good men have held it lawful to be reticent concerning the source of some true and brilliant suggestion, if they have thought that mention of the work whence it was derived would either spread the knowledge of what might do mischief, or else prejudice hearers and readers against an argument which in itself was sound and valuable" (p. 52). The Anselmian argument, he concludes, had no widespread and acknowledged influence on theology until it was taken up by Descartes in *the early portion of the 16th century* (p. 55). Of those who have employed some form of *a priori* argument since Descartes, the chief writers discussed are Clarke and the late W. H. Gillespie, in whose honour the Lectureship held by the author was founded. The lectures themselves are followed by an "Appendix A" (pp. 99-129) in which (1) references are made to "schools of thought, or authors who do not seem to have attained to a true Theism," and (2) specimens are given from "authors who do appear to have grasped, as far as human understanding can, what is implied in the word God"; and an "Appendix B" (pp. 130-6) on necessary truths in science. After the Appendices comes a "Postscript" (pp. 137-44) on (1) Kant and the *a priori* argument, (2) "the alleged Pantheism of Plato," and (3) "the famous renegade from Judaism, Benedict Spinoza" (see p. 60). Lastly there is an "Addendum" (pp. 145-6) on "the force and practical authority of truths for which the proof falls short of absolute demonstration".

Works of THOMAS HILL GREEN, late Fellow of Balliol College and Whyte's Professor of Moral Philosophy in the University of Oxford. Edited by R. L. NETTLESHIP, Fellow of Balliol College, Oxford. Vol. II. *Philosophical Works.* London: Longmans, Green, 1886. Pp. xliv., 552.

Following vol. i., which brought together (see MIND, Vol. x. 461), with some small additions, all of Green's previously published philosophical writings except the *Prolegomena to Ethics*, the present volume consists of selections from his unpublished philosophical papers. "It was his practice, both as college-tutor and as professor, to write out and keep full notes for

most of his lectures. These were rewritten and amplified from time to time, and in some cases developed into tolerably finished compositions. In making selections from them it has been thought advisable not to include anything written before 1874, the date of the 'Introductions to Hume'. The earlier drafts, though by no means devoid of interest, are for the most part superseded by those which are here printed; and where this is not the case the more careful composition of the latter seems to show that they contained the writer's maturer views." As now presented, with great care, by the editor (who gives, at a length of xxxviii. pp., a most elaborate and serviceable analysis of contents), the selections fall under four heads: (1) Lectures on the Philosophy of Kant, pp. 2-155; (2) Lectures on Logic, pp. 158-306; (3) On the different senses of 'Freedom' as applied to Will and to the Moral Progress of Man, pp. 308-33; (4) Lectures on the Principles of Political Obligation, pp. 335-553. The lectures on Kant are about equally divided between topics of his general and of his ethical philosophy. The lectures on Logic deal first, shortly, with the position of the Formalists (chiefly Mansel), and then, at greater length (pp. 195-306), with the main topics of Mill's treatise. The discussion of 'Freedom' in Morality supplements what Green has elsewhere written on that subject. The remaining course of lectures, treating of the moral grounds upon which the State is based and obedience to the law of the State is justified, is partly critical and partly expository: it was to have been followed by a consideration of 'Social Virtues' and 'Moral Sentiments' that was never carried out. It will be evident, from this most general indication, what a range of thought more or less new the present volume offers to the critical survey of those who, from so many different sides, have shown themselves interested in Green as in few other workers of his time. The different parts of the volume will, it is hoped, all receive due appreciation in these pages.

The Teacher's Handbook of Psychology. On the Basis of "*Outlines of Psychology*". By James Sully, M.A., Lecturer on the Theory of Education in the College of Preceptors, London, &c. London: Longmans, Green, 1886. Pp. xvi., 509.

Mr. Sully's *Outlines of Psychology* (reviewed in Mind, Vol. ix. 314) included, according to its subtitle, a special reference to the "Theory of Education," but had more directly in view the requirements of general students. While these have not been deterred, by the amount of applied psychology which the book contained, from taking swift advantage of the theoretical instruction it brought them, it has been more difficult for teachers to make their way through so much general theory to an appropriation of the lessons which, they are now becoming more and more aware, psychological science has for them. For the special benefit of teachers, Mr. Sully has, accordingly, here aimed at "considerably reducing and simplifying the statement of scientific principles" in his *Outlines* "and expanding the practical applications". The labour has been far from small; for it has been no case of mere condensation but, at some places, involved a systematic recasting, with introduction of new chapters where stood mere sections before. The result appears to be a well-balanced manual of practical psychology, for which teachers cannot fail to thank the author. He will not be insensible of the rather obvious duty that now arises for him, with the *Outlines*, to the general student.

A Handbook of the History of Philosophy. For the Use of Students. By Ernest Belfort Bax. ("Bohn's Philosophical Library.") London: G. Bell & Sons, 1886. Pp. 419.

It cannot be said that Mr. Bax has succeeded, with this volume, in

filling the gap so long apparent in English philosophical literature. Schwegler's sketch of the history of philosophy, in spite of its undeniable merits (increased in Dr. J. H. Stirling's translation), does by no means satisfy the needs of the English student, and Mr. Bax was evidently not unaware of the opportunity he had when he deliberately elected to give, in a single handy volume, an original survey of the development of philosophical thought, instead of accepting the humbler task of re-editing for present use that other German manual—by Tennemann—which had been translated before Schwegler's. The result is not satisfactory. Mr. Bax has genuine philosophical interest and even enthusiasm, writes fluently and sometimes forcibly, and could not work over the ground to the extent that he has done without expending a great deal of labour; yet "students" cannot be advised to turn to his book. He is not nearly accurate enough for them in his facts, and he is terribly viewy. The viewiness (joined with a too magisterial assumption) cannot easily be illustrated here, but will immediately strike anyone who looks, in the interest of students, for the positive and balanced instruction expected of a *Handbook*. His accuracy may be gauged by what he tells us (p. 378) of James Mill as "in the direct line of the Scotch psychological school," which must be the same as that of which Reid (p. 201) is declared "the progenitor"; or (p. 203) of Thomas Brown as teaching Reid's philosophy; or (p. 211) of D'Holbach as having published the *Système de la Nature* "under the name of the elder Mirabeau" (!); or (p. 168) of Leibniz, who in 1663 went (for a session) to Jena, as there reading "Hobbes and Locke" (when Locke's *Essay* did not appear till 1690). Inaccuracies of this kind—and there are many more of them—are serious enough when "students" have not the knowledge with which to be able to discount them. (Errors of a still more obvious sort, inflicted in large numbers upon Mr. Bax by the carelessness of his printers, he has, we understand, taken measures to remove from all but the first impression of his book.) Great familiarity, at first hand, with the literature of philosophy is necessary before a man can hope to write a useful sketch of its history. It is a pity Mr. Bax was not content to revise Tennemann as far as Tennemann (in his day) went, and, having gained space by throwing out the more antiquated and useless of Tennemann's over-abundant references, to occupy it with a carefully written supplement, bringing the history, in a subdued business-like style, down to the present time. Students would then have been more in his debt than they are now likely to be, and between *Schwegler* and such a *Tennemann*, backed always by *Ueberweg*, have been able to do fairly well—till the time when some coming English historian of philosophy on the large scale may complete his work (like another Zeller) by writing, out of the fulness of knowledge, a compendium also.

Natural Causes and Supernatural Seemings. By Henry Maudsley, M.D., LL.D. London: Kegan Paul, Trench, 1886. Pp. 368.

"A plain scientific obligation," the author holds, lies on those who do not believe that there is any "accessible supernatural," "to explain the natural origin of human belief respecting that which is beyond the reach of human thought". The causes of belief in the supernatural are treated under the heads of "Fallacies incident to the Natural Operations of Sound Mind" (part i., pp. 7-145); "Unsound Mental Action" (part ii., pp. 149-261); and "The Attainment of Natural Knowledge by Divine Illumination" (part iii., pp. 265-353). All three parts are full of psychological interest independently of the main argument. The errors considered in part i. are first of all those that are due to purely intellectual causes, among which the author finds that the tendency of the mind to be

impressed more vividly by agreeing than by opposing instances is the most powerful; after these, the errors due to feelings, such as wonder and desire, are considered; finally, errors due to the unrestrained exercise of the imagination. Imagination is described as "the latest and highest outcome of the generative or productive energy or *nisus* of organic nature". Differing from the processes of observation and reasoning in being "quick, easy and pleasant" instead of "slow, toilsome and difficult," it is the source of fictions that take the place of facts and of theories that anticipate observation. Most of its products perish without result; some grow into artistic works or into portions of the structure of science; some take the form of unverifiable beliefs about the supernatural. Part ii. treats not only of the "mania and delusion" of actual insanity, but also of the "hallucinations and illusions," whether originating in the sensory or the higher centres, which form a sort of "penumbral region" between sanity and insanity. In part iii. are discussed the various kinds of "intuition" by which it has been supposed that insight is attained into the supernatural. These include "the intuition of the heart," "theological illumination" and "metaphysical illumination" (the "ecstasy" of the Neo-Platonists, &c.). As the physical basis of the creative imagination is conjectured to be the formation of "new nerve-junctions," the physical basis of ecstasy is found in the exaggerated activity of nerve-centres disconnected temporarily from the rest. Certain nervous tracts "stand out"—as is indicated by the word itself, "ἔκστασις,"—"in their special activity rapt into a delirium of function" (p. 331.) From this striking explanation of certain pathological states, it is inferred that "theologian and philosopher alike exhibit the strained functions of a sort of *psycholepsy*" (p. 351). All "speculative philosophy" is condemned as the straining of a mental function "beyond the reach and need of a correlate in external nature". "Genuine knowledge . . . represents the formation of a complete and fit circuit between the individual and nature. . . . There is an incompleteness or break of circuit when the mutual adaptation is inadequate or interrupted, which is probably the condition of the occurrence of consciousness. . . . What else, then, is transcendent metaphysical thought and feeling"—being an exaggeration of consciousness—"but the designed and methodical culture of a break of circuit and the pernicious negation of the true method of knowledge?" Here, and especially in the parenthetical remark that "if the circuit were complete and fit in every particular, there would be full unity of man and nature, and no consciousness," the author seems, by force of reaction from "metaphysics," to suggest as an ideal a state not so much unlike the mystical "absorption," which, although the product of "isolation" instead of "complete circuit," equally had unconsciousness for its term. In this whole passage (pp. 351-3) as well as others, Dr. Maudsley appears, not for the first time, in the character of the *Métaphysicien malgré lui*.

Constructive Ethics. A Review of Modern Moral Philosophy in its Three Stages of Interpretation, Criticism and Reconstruction. By W. L. COURTNEY, M.A., LL.D., Fellow of New College, Oxford, Author of "*The Metaphysics of John Stuart Mill*" and "*Studies in Philosophy*". London: Chapman & Hall, 1886. Pp. xvi., 318.

This book is "intended as an Introduction to a systematic effort to work out a System of Ethics" which at "some time in the future" the author hopes to be able to accomplish. In his "theoretical" part (i., pp. 1-52) he sets out to show that in ethics as in metaphysics there can be no "properly constructed system" except "on the foundation of Absolute Idealism". Three kinds of ethical systems, the "interpretative," the

"critical," and the "reconstructive," are found to succeed one another in the history of speculation ; these, accordingly, form the subject of the three books of the "historical" part (ii., pp. 55-318). Since "the law of obligation" is "at once the central conception of ethics" and "in itself an essentially metaphysical principle," as every principle must be that can lay any valid claim to serve as a foundation of ethics, moral systems may be divided into "(1) Those which give no explanation of moral obligation, (2) Those which give some explanation, satisfactory or unsatisfactory" (p. 71). In the first class come Materialism and Mysticism. The second class includes Egoism, Sentimental Altruism, Utilitarianism, Rationalism, and Evolutionistic Ethics. The members of this class are dealt with under the heads, already mentioned, of "Interpretation," "Criticism," and "Reconstruction". The "interpretative" systems that form the subject of bk. i. (pp. 55-131) are "Egoism" (Hobbes), "Sentimental Altruism" (Adam Smith, Hutcheson, &c.), the system of "Conscience" (Butler), and "Early Rationalism" (Clarke, Price, &c.). Book ii. ("Criticism," pp. 135-164) treats of Utilitarianism, "early" (Hartley, Paley, Bentham, &c.), and "later" (James Mill, Austin, J. S. Mill). "The age of criticism," it is said, "is one of lassitude in creative effort : an age of provisional hypotheses and intellectual suspense." Thus it was that following the first systems, characterised as various "modes of interpreting the moral data," come "the critical systems of a crude and disappointing utilitarianism". Although in theoretical philosophy "criticism is concentrated in the critiques of Kant," yet "the rationalism of Kantian ethics begins the function of reconstruction" (p. 3). Kant therefore is the subject of ch. i. of bk. iii. ("Reconstruction," pp. 167-318). The remaining chapters deal with "The Successors of Kant," "Scientific Theories" (Spencer, Stephen,&c.) and "Pessimism". Rationalistic ethics, as well as metaphysics, is found to culminate in the doctrine of Hegel. "The Ethics of Evolution" is "the lineal descendant of Utilitarianism," but it "ruthlessly lays hands on its natural parent". "Just as the psychology of Spencer and Lewes has taken the place of the individualistic psychology of Locke and Hume and Mill, with its larger notions of race-experience and its wider faith in time, so, too, has the ethics of evolution in reality destroyed the narrow Utilitarianism of Bentham and Austin and James Mill, with its fuller views of the development of conduct and the genesis of the moral consciousness" (p. 242). The author's conclusion as to the doctrines of "Scientific Ethics" is, however, very much like that which he arrives at afterwards as to the ethical doctrines of Schopenhauer and Hartmann, these being condemned as "only partially reconstructive and of purely transitional value" (p. 318). "The magnificent postulate which Hegelianism involves," and that alone, can give us a satisfactory Constructive Ethics (p. 227).

The Principles of Morals (Introductory Chapters). By JOHN MATTHIAS WILSON, B.D., Late President of Corpus Christi College, and Whyte's Professor of Moral Philosophy in the University of Oxford, and THOMAS FOWLER, M.A., President of Corpus Christi College, and Wykeham Professor of Logic in the University of Oxford, Honorary Doctor of Laws in the University of Edinburgh. Oxford : Clarendon Press, 1886. Pp. vii., 133.

The three chapters of this book are the introduction to a work (to be called *The Principles of Morals*) planned, many years ago, by the joint authors, and in part written, but broken off by Prof. Fowler on his colleague's death. Pending the completion of the work, which he has not yet been able to undertake, Prof. Fowler thinks the publication of the present chapters "may be of some service to students as affording an introduction

to Moral Philosophy and containing a brief sketch of the leading English Moralists". "There is the additional reason," he adds, "for publishing these chapters in a separate form, that they alone received Prof. Wilson's final *imprimatur*. Should the remaining chapters ever appear, though they will contain many of Mr. Wilson's ideas, expressed, at times, in his own language, the responsibility for the opinions adopted in them will rest mainly with me." Ch. i. (pp. 1-22) is on the definition and divisions of Moral Philosophy, and on its relation to other sciences and to religion. Ch. iii. (pp. 114-133) on the "Method of Morals". Ch. ii. is a "Review of the earlier English Moralists" from Hobbes to Bentham. Hobbes is criticised on the ground that his system is "unhistorical". By the distinction of ethics and politics, discussed in ch. i., both Hobbes and Bentham are defended, on the ground that they aimed at constructing a political rather than an ethical system, from the strictures of those who object that they do not take sufficient account of the higher ethical emotions. "The speculations of Hobbes," it is said, "created English Moral Philosophy by antagonism" (p. 35). As representatives of the two lines of speculation, that of rationalism and that of "moral sense," "conscience" or "sympathy," which sprang from reaction against Hobbes, the systems of Cudworth and Clarke, Hutcheson, Butler, Hume, Adam Smith and Price are selected for special exposition. Hume receives the praise of having "reduced to order and symmetry all the elements of moral theory existing in his time" besides making advances on his predecessors (p. 61). A section on Kant is interpolated because his system is closely akin to English rationalism, especially to the system of Price. Having hitherto considered writers who "admit, though presenting many minor differences, of being ranged under two heads," the authors next proceed to notice some of those who cannot be classified strictly under either head; selecting for exposition Mandeville, Hartley, Locke, Tucker, Paley and Bentham. The general conclusion of the historical chapter is that the writers noticed "all called attention to important aspects of the subject, and erred not so much in positive misstatement as in the omission of some essential consideration. Thus, Hobbes drew special attention to the action of law in modifying conduct and to the strength of the self-regarding feelings; Shaftesbury, Hutcheson and Butler to the existence of the benevolent and more distinctively moral side of human nature; Mandeville to what may be called the semi-social feelings; Hartley to the influence of association in the formation of our more complex states of mind, and Bentham to the necessity of an external test of actions" (p. 113). The Method of Morals, it is concluded in the last chapter, must be *a posteriori* as opposed to *a priori*. Further, it must be historical: for morality is progressive; and it is by the historical method of study that we can best learn to make improvements in inherited morality.

The Philosophy of Art. An Introduction to the Scientific Study of Æsthetics. By HEGEL and C. L. MICHELET. Translated from the German by W. HASTIE, B.D. Edinburgh: Oliver & Boyd, 1886. Pp. xv, 118.

A translation of Hegel's Introduction to the *Æsthetik* (pp. 1-46) and of Michelet's Summary of Hegel's Philosophy of Art (pp. 49-118). In his preface the translator enthusiastically commends Hegel's teaching to the attention of English artists.

The World as Will and Idea. By ARTHUR SCHOPENHAUER. Translated from the German by R. B. HALDANE, M.A., and J. KEMP, M.A. Vols. II., III. London: Trübner, 1886. Pp. viii., 496; viii., 509.

With these handsome volumes (xxiii., xxiv. of the "English and Foreign Philosophical Library"), the translators complete their arduous task begun in 1883. Vol. i. then published contained a short statement (see MIND,

Vol. ix. 156) of the scope and method of their undertaking, and they are now to be heartily congratulated upon the execution. Some defects or slips that could be noted in their first volume have been made good, and the remainder of the work, in the final form it assumed at Schopenhauer's hands, appears (upon an examination of passages selected at random) to have been rendered with as much care in detail as intelligent grasp generally. If Schopenhauer—as he was slow in obtaining recognition from his countrymen during his lifetime—has had to wait a quarter of a century from his death for his English public, he has at least been fortunate in securing translators able and determined to do his remarkable qualities justice. Vol. ii. begins with the striking "Criticism of the Kantian Philosophy" which (in less developed form) was added as Appendix to his work as it originally appeared in 1819; and from p. 163 follow the "Supplements," which, first added in 1844 and increased in 1859, are a continuous product of his ripest thought rather than a mere elucidation of his earlier ideas (as their name and parallel construction would seem to import). Besides providing a useful and much-needed Index (with the help of the devoted Frauenstädt's *Schopenhauer-Lexikon*) the translators, according to their formerly announced plan, have given at the end an Abstract (pp. 477-86) of the early (1813) dissertation *On the Fourfold Root, &c.*, which laid out the main lines of all Schopenhauer's later thought. What else he thought necessary to be added to the systematic exposition of his philosophy is to be found in the *Paralipomena* of 1851 (published with the *Parerga*).

Autobiography of Friedrich Fröbel. Translated and Annotated by Emilie Michaelis and H. Keatley Moore, Mus. Bac., B.A. London: Swan Sonnenschein, 1886. Pp. 144.

The different pieces here brought together, all bearing on the life and labours of the founder of the Kindergarten system, are issued by the translators as some kind of substitute for a rendering of Froebel's chief work *Die Menschenerziehung*, which they had proposed to undertake for the English Froebel Society, on occasion of the centenary of the master's birth in 1882, but appear not to have been encouraged to carry through. Their common enthusiasm for the cause and their helpful difference of nationality have enabled them to reproduce Froebel's ideas and words in a thoroughly trustworthy form. The main autobiographical piece (pp. 3-101), consisting of an unfinished letter addressed to the Duke of Meiningen in 1827, should be full of interest for all those who wish to understand the strange mixture of mystical feeling and somewhat perplexed intelligence with practical good sense in the nature of the great educational reformer. To this piece are added, by way of supplement, a shorter account of his life included by Froebel in a letter (1828) to the philosopher Krause; a sketch, entitled "Critical Moments in the Froebel Community," by his adherent Barop, writing by way of reminiscence about the year 1862; and finally a full chronological abstract of the principal events both in the life of Froebel and in the development of the Kindergarten movement, abroad or in England, down to the present time.

Lectures on the Diagnosis of Diseases of the Brain. Delivered at University College Hospital. By W. R. Gowers, M.D., F.R.C.P., Assistant-Professor of Clinical Medicine in University College, &c. London: J. & A. Churchill, 1885. Pp. vii., 246.

These Lectures (which serve to complement the author's earlier *Diagnosis of Diseases of the Spinal Cord*) have been recognised as one of the best recent products of the English neurological school, and should be carefully noted by psychologists that are concerned to get trustworthy information

as to the present state of cerebral pathology. They are marked by great clearness of statement and independence of judgment. We hope for an opportunity, later on, of drawing more particular attention to some points in those of the lectures (such as x., "Affections of Speech") where the author trenches more directly upon psychology.

Kant's Ethics. A Critical Exposition. By NOAH PORTER, President of Yale College. ("Griggs's Philosophical Classics.") Chicago: S. C. Griggs, 1886. Pp. xviii., 249.

The chapters of this essay on Kant's ethics are, after a short Introduction, (i.) Principal Ethical Treatises, (ii.) *The Fundamental Principles of the Metaphysics of Morals*, (iii.) *The Critique of the Practical Reason*, (iv.) A Critical Survey of Kant's Ethical Theory, (v.) Brief Notices from a few of Kant's German Critics (Schiller, Trendelenburg and Lotze). The line the author takes in the critical part of his work is to urge, against the purely formal character of the Kantian ethics, that under the title of "fitness to be a universal law of nature" Kant really makes use of the criterion of "tendency to promote the general welfare". A "rational nature," if it is absolutely insensitive, cannot be an end to itself. "Worth and value are terms which can have no import unless the emotions are appealed to." Butler's "principle of reflection" is compared with the doctrine of the practical reason and is preferred to it because, although not sufficiently based in analysis, it is yet founded on a doctrine of human nature, and not, like the Kantian doctrine, put forward as applicable to "all rational beings" without any reference to the special constitution of man (pp. 186-9). "Our solution holds fast to the authority of the moral reason and the moral law, as recognised by both Kant and Butler. So far as Butler recognises simple authority as the distinctive attribute of the moral reason or the moral nature in the way of personification, without any explanation of the natural endowments which make it possible, so far he is fairly open to criticism. So far as he resolves the possession and use of this authority into the nature of man as a reflective and voluntary being, so far does he make his theory rational" (pp. 205-6).

German Psychology of To-day. By TH. RIBOT, Director of the *Revue Philosophique*. Translated from the 2nd French Edition by JAMES MARK BALDWIN, B.A., late Fellow of Princeton College; with a Preface by JAMES M'COSH, D.D., LL.D., Lit.D. New York: C. Scribner's Sons, 1886. Pp. xxi., 307.

A welcome translation, by a competent and careful hand, of Prof. Ribot's well-known work. The task of translating "was undertaken with the feeling that no greater service of the kind could be rendered to the 'new psychology'". Dr. M'Cosh, in a Preface of 8 pp., says first a useful word or two for the introspective method as fundamental in psychology—useful because of a certain exaggeration in some of the author's statements that follow; and then makes some interesting remarks on the supplementary (physiological) method. ("Herbart of *Leipsic*" must be a slip of the pen for Königsberg or Göttingen—if local designation were necessary.)

Étude sur le Scepticisme de Pascal considéré dans le Livre des Pensées. Par ÉDOUARD DROZ, Docteur ès Lettres, Maître de Conférences à la Faculté des Lettres de Besançon. Paris: F. Alcan, 1886. Pp. 394.

The author's object is to oppose the view of Pascal's *Pensées* which he takes to be the prevalent one among the educated public, *viz.*, the view derived from Cousin and summed up in the phrase—"the scepticism of

Pascal". Pascal, he contends, was a sceptic only in appearance. The appearance of scepticism was produced by his taking in his Apology the line of appealing to the heart rather than the intellect. To make the ground clear for this appeal, he balances one philosophical doctrine against another, "dogmatism," for example, against "scepticism," showing that it is impossible to decide on rational grounds for either; and, in general, he tries to bring out the mutual contradictions of philosophical systems. With respect to philosophy, therefore, he might be called a sceptic; but he is not to be placed among the philosophers, but among the Christian saints, or, if the term is preferred, mystics; and his "sceptical" method is one that had been employed before, in particular by the Fathers of the Church. He makes use of this method because his aim, like theirs, is not simply to furnish a proof of religion, but to convert unbelievers. It is an error to suppose, as Lange does, that from being a philosophical sceptic he became a believer in revealed religion on grounds of faith; that, as has been frequently represented, he was a kind of "Romantic" of the 17th century, who, to escape doubt, threw himself upon faith by a movement of reaction. On the contrary, his philosophical "scepticism" was really the result of an increased intensity of faith. He at first accepted the philosophical proofs of religion, but afterwards came to hold demonstration in contempt as compared with appeals to the heart and to the will. And the doctrine of Pascal is no more sceptical than his method is in reality. For, while he rejects equally "scepticism" and "dogmatism," the scepticism he rejects is the true scepticism, but the dogmatism he rejects is the false dogmatism,—the dogmatism, namely, of philosophical systems that undertake to prove independently what can only be accepted as revealed.

Philosophie de Stuart Mill. Par HENRI LAURET, Professeur agrégé de Philosophie, Docteur ès Lettres. Paris: F. Alcan, 1886. Pp. 448.

This book on the philosophy of J. S. Mill is divided into an expository part (pp. 17-260) in four chapters, entitled "Psychology," "Logic," "Morals," "Idealist Positivism and Humanitarian Religion"; and a critical part (pp. 263-445), of which the first four chapters deal with the subjects of the exposition in the same order, while ch. v. furnishes a general conclusion. The substance of the criticism of Mill's psychology and logic is that he recognises no activity of the *Ego*. For the rest, he is neither a consistent nominalist nor empiricist. No consistently empiricist logic, indeed, is possible; for "consequent empiricism" is "the anarchy of thought" (p. 322). But it is in his treatment of questions of morals and religion that Mill is most inconsistent. Here his aspirations are always opposed to the doctrines he professes (p. 375). His great merit, apart from his work in the theory of politics and in political economy, is to have constructed a "philosophy of association" when before him there was only a "psychology of association". "In spite of the insufficiency of associationism," the author concludes, "Stuart Mill will remain as an illustrious representative of contemporary empiricism, which will have the honour of having enriched the *philosophia perennis* with two new data—Habit and Heredity."

La Peur. Étude psycho-physiologique par A. Mosso, Professeur à l'Université de Turin. Traduit de l'Italien par FÉLIX HÉNNENT, Membre du Conseil supérieur de l'Instruction publique. Avec figures dans le texte. Paris: F. Alcan, 1886. Pp. 179.

This translation, from (already) the third Edition of Prof. Mosso's *La Paura* (see MIND, vol. x. 619), should give still wider currency to the very brightly written and interesting book of an original scientific investigator.

L'Alternative. Contribution à la Psychologie par EDMUND R. CLAY, traduit de l'Anglais par A. BURDEAU. Paris: F. Alcan, 1886. Pp. xx., 650.

The Alternative, published anonymously in England in 1882 (reviewed at length in MIND, Vol. viii. 109), has now in this French translation the author's name attached to it. The translator, in an Introduction of xvi. pp., gives a sympathetic exposition of the main ideas and object of the work, but tells nothing new of the author beyond his name. M. Ravaisson appears to have been struck by the work, for it was he that counselled the translation.

Le Langage intérieur et les diverses Formes de l'Aphasie. Par GILBERT BALLET, Professeur agrégé à la Faculté de Médecine de Paris, Médecin des Hopitaux. Paris: F. Alcan, 1886. Pp. xvi., 174.

We hope to return to this work, which, coming from a medical man, has a special significance in so frankly recognising the necessity of interpreting the facts of cerebral pathology by the results of properly psychological analysis. The complementary relation of the one to the other could not be better or more intelligently put than in the author's Introduction, where his task is thus described: "Montrer les résultats de cette heureuse entente de la psychologie et de la pathologie, faire ressortir les éclaircissements que la clinique apporte à l'étude de la fonction du langage, rechercher surtout les interprétations des diverses formes de l'aphasie, telles que les rend possibles l'analyse psychologique, tel est, si nous ne trompons, l'effort qu'on attend de nous". This purpose he appears to have very effectively carried out within the short compass of his work; though, written as it was with a view to 'aggregation' in medicine, both subject and title of it were set to him rather than chosen by him.

Science et Philosophie. Par M. BERTHELOT, Sénateur, Membre de l'Institut. Paris: Calmann Lévy, 1886. Pp. xv., 492.

This volume consists of articles contributed to various journals by the distinguished chemist during the last thirty years, and constitutes "a sort of intellectual and moral biography of the author". The articles fall into four principal groups: Scientific Philosophy; History of Science; Public Instruction; Politics and National Defeuce. The last two groups include a description of the University of Geneva, with special reference to scientific instruction (pp. 321-50), and an account of some of the efforts made during the siege of Paris by the Scientific Committee of Defence, of which the author was president, to devise new methods of communication by electricity and otherwise (pp. 416-90). In an article on the scientific relations of France and Germany (pp. 351-63), intended as a protest against the introduction of national antipathies into science, M. Berthelot points out incidentally that, contrary to the opinion that is generally formed of the German genius, the part of the Germans in the establishment of the law of chemical equivalents has been above all experimental and practical. "On the contrary, the atomic theory properly so-called, of a more abstract and contestable character, is due to an Englishman, Dalton; whilst its demonstration by the physical study of gases has been given by a Frenchman, Gay-Lussac." The genius of the European races, therefore, is not so different as some wish to make out (p. 356). Under the head of history of science comes an account of the Academy of Sciences from its foundation, under the First Republic, to the present time (pp. 185-214), followed by obituary notices of Balard, Victor Regnault, H. Sainte-Claire Deville, and Adolphe Wurtz; and further supplemented by sketches of the history of explosives and of the origin of alchemy, both of which subjects have

been treated by the author in larger works. As contributions to the philosophy of science the most notable articles are those that are placed at the beginning of the volume, on Ideal Science and Positive Science (pp. 1-40) and on Synthesis in Organic Chemistry (pp. 41-96). In the first of these the author argues that what metaphysical systems have always done has been to arrive again by a pretended deduction from *a priori* principles at the positive knowledge of their time, filling up its lacunæ by imaginative construction; that the "ideal science" of the whole, although it can never attain the certainty of the positive sciences that deal with a special and limited subject-matter, has yet a legitimate place; and that its true method must henceforth be to do consciously what the systems of the past did "with a sort of unconscious dissimulation". The synthesis of organic bodies is a branch of chemical science that began practically with the researches of M. Berthelot himself. Accordingly the two articles on the character of chemistry as determined by its employment of methods that are at once synthetic and experimental are, from the philosophical point of view, the most interesting of all. The power of "creating its object," of realising experimentally its schemes of classification, including the members of them that are not already realised by nature, is found to be that which distinguishes chemistry from the natural history sciences. The experimental science of chemistry in this respect resembles mathematics. "These two orders of knowledge proceed equally by way of deduction in the search for the unknown. Only, the reasoning of the mathematician, founded on abstract data established by definition, leads to abstract conclusions equally rigorous; whilst the reasoning of the experimenter, founded on real and in consequence imperfectly known data, leads to conclusions of fact which are not certain, but only probable, and which can never dispense with an effective verification." (p. 65).

Giovanni Cesca, Professore di Filosofia nel Regio Liceo di Treviso. *La Morale della Filosofia scientifica.* Verona-Padova: Drucker e Tedeschi, 1886. Pp. 46.

In combating "the accusation brought against scientific philosophy of destroying morality," the author urges, among other arguments, that the doctrine of evolution as applied to society is not fatalistic, since a part of this doctrine is that the conscious aims of individuals count for more towards progress as the conception of progress becomes clearer; that the present decline in morality, of which he concedes to his opponents the existence, is due to the exaggerated development of modern industrialism, not to a decline of religious faith; and that "evolution" is not to be confounded with "Darwinism," on which—since the aims of the individual so far as they are taken account of by the doctrine of survival of the fittest are entirely egoistic—there can be no question of founding a system of morality. Conditions of a true morality are: (1) that it should have relation to men and their ends, (2) that its principle should be a material principle drawn from experience, not a purely formal and *a priori* principle, as with Kant, (3) that its foundation should be "anti-individual and anti-egoistic". The last condition has been recognised by those moralists, from Aristotle onwards, who have insisted on the natural sociability of man; but "the merit of having recognised this principle in all its extension and of having made it the basis of ethics belongs to the two true founders of moral science based on scientific philosophy—Ardigò and Stephen".

Sulla Rappresentazione mentale dello Spazio in Rapporto col Sentimento dello Sforzo. Note e Ricerche di Psicologia sperimentale del Prof. Enrico Morselli, Direttore della Clinica delle Malattie mentali nell' Università di Torino. Milano-Torino: Fratelli Dumolard, 1886. Pp. 39.

The result of a series of experiments the author has made on his power of reproducing spatial images perceived under varied conditions, is confirmation of the doctrine of the *a posteriori* origin of the sense of space, and establishment of the preponderance, among its factors, of experiences of the muscular sense. He finds analogies throughout between his own results with regard to space and those of Buccola and others with regard to time. There is, for example, a tendency to augment small and to diminish large spaces; there is a "point of indifference"; and with larger spaces the errors become greater according to a formula identical with that which applies to intervals of time.

La Religione come Scienza. Saggio di ABELARDIUS. Cremona: Tipografia sociale, 1885. Pp. 111.

Since the phenomena of religion are of subjective order, religion is "a psychological science". By introspective analysis of the religious consciousness, therefore, the "scientific religion" may be arrived at, *viz.*, "Neo-Christianity".

Vorlesungen über Metaphysik mit besonderer Beziehung auf Kant. Von Dr. JULIUS BERGMANN, ord. Prof. der Philosophie an der Universität zu Marburg. Berlin: Mittler, 1886. Pp. viii., 490.

The author (whose *Reine Logik* i. was critically noticed in MIND, Vol. v. 139) defines metaphysics, after Aristotle, as "the science of being as being". Everything that is represented is represented not only as existing, but also as a thing; hence metaphysics deals not only with being as being, but also with things as things. It is not more than other sciences in need of a preliminary criticism that shall inquire into the limits of reason; and the merit of Kant is really that of having made a reform in metaphysics, not that of introducing the new idea of a "criticism of knowledge". Metaphysics is the science (not "criticism") of reason, as well as the science of things; the science of knowing as well as the science of being. For "being" is a conteut of intuition, a determination of things that is present in all perception. When we think of an object as existing—and we do this even when we know that actually it does not exist—we think at the same time a thought, or more accurately a perception, of which it is the object. This thought is identical with the being of the thing. "Perceptibility" and being perceived (by a consciousness) are the same. When we try to think of things as independently existing, inconsistencies reveal themselves: so that ultimately we arrive at the proposition, "Being is consciousness perceiving itself". "The general notion of thinking or consciousness is therefore identical with the general notion of being." The notion of being, it is found, requires a plurality of beings (*i.e.*, of *Egos*), and further a conception of these as part of an intelligible whole. Thus from the science of mere being, metaphysics passes into general philosophy. Philosophy, while remaining always knowledge of things from concepts,—but not (as Kant incorrectly asserted of all metaphysical systems previous to the *Kritik*) in independence of intuition and perception,—passes from the general to the particular, or from the lower to the higher, arriving at length at the "concrete whole" that includes all existing things in its self-conscious unity. Carried out in detail, it does not remain merely theoretical, but considers man not only as knowing, but also as feeling and desiring. The direction of metaphysics was for a long time cosmological, starting from the being of things rather than from the being of the *Ego*. Kant made it psychological, but without changing its essential character as dealing with being; for in the psychological mode of consideration the *Ego* is viewed as existent, and may be made the starting-point of a complete outological doctrine. In the

present series of "lectures" the author does not attempt to set forth in its entirety his metaphysical—still less his philosophical—doctrine, but only gives the preliminaries; his chief object being to clear the ground by showing that metaphysics (in the older sense) may go forward as securely as any of the special sciences, since it needs only the same kind of constant revision of methods, naturally determined by their actual application to the appropriate subject-matter, and not a complete criticism of them before any application at all is attempted. Such a criticism, for the rest, is impracticable and even self-contradictory. The subjects of the lectures are: (1) The Problem of Metaphysic; (2) Metaphysic, *Vernunftkritik*, Science of Reason; (3) Being and External Feeling; (4) Being and External Intuition; (5, 6) External Perception as Feeling, Intuition and Thought; (7, 8) Being and External Perception; (9-11) Internal and External Perception; (12, 13) Being and Internal Perception; (14) Things-in-themselves; (15, 16) The Notion of Being; (17, 18) Formal Determinations of the Notion of Being; (19) The Intuitive Content of the Notion of Being; (20) Metaphysic and Philosophy.

Ueber Materie und Geist (Zur Verständigung) nebst einem Anhang über den Darwinismus. Von Dr. ADOLPH STEUDEL. Stuttgart: A. Bonz, 1885. Pp. 58.

This book consists chiefly of citations of the opinions of various modern German writers on the nature of mind and matter. The author's principal object is to refute materialism. His "Appendix on Darwinism" is directed against Haeckel. In Dr. Steudel's opinion, the theories of natural selection and sexual selection are equally groundless, and have "raised so much dust," simply because of the attraction anything materialistic has for "the unthinking many"; "in a short time" they will be heard of no more.

Epikur. Seine Persönlichkeit und seine Lehre. Eine Monographie in populärer Fassung von JOSEF KREIBIG. Wien: Halm & Goldmann, 1886. Pp. 50.

A sympathetic sketch of the personality of Epicurus and his philosophy. The introductory section (pp. 7-21) gives an account of the fortunes of Epicureanism in ancient and modern times and the estimation in which it has been held. The system of Epicurus is then described under the heads of Logic, Physics and Ethics. At the end there is a defence of the Epicurean doctrine of happiness as distinguished from that of Aristippus.

Geschichte der neueren Philosophie von Nikolaus von Kues bis zur Gegenwart. Im Grundriss dargestellt von Dr. RICHARD FALCKENBERG, Privatdozent an der Universität Jena. Leipzig: Veit, 1886. Pp. viii., 493.

This history of modern philosophy aims at holding a mean position between Windelband's *Geschichte* and Ueberweg's *Grundriss;* that is to say, it is to keep close to the words of the philosophers expounded and to be less literary than the former, while it is less bibliographical than the latter. The author seems to have succeeded very well in combining the merits of both modes of treatment. His exposition of philosophic systems is readable as well as careful; and his bibliography is very full and exact. Ch. i. (pp. 14-56) is an account of the period of transition from mediæval to modern philosophy. This is taken as extending from the middle of the 15th to the middle of the 17th century; Nicholas of Cusa opening the transition-period, Descartes the properly modern period. The remainder of the book is divided into two parts, the first of which (cc. ii.-viii., pp. 57-242) deals with the period from Descartes to Kant, the second

(cc. ix.-xvi., pp. 242-471) with the period from Kant to the present time. Then follow Indices of philosophical terms used (pp. 472-86), of philosophers treated (487-91), and of historians, critics, &c., cited (pp. 491-3). The author accepts, as an important point of view definitively gained for the study of history of philosophy, the Hegelian doctrine of a progressive bringing to light of different sides and aspects of truth; but he insists also on the necessity of recognising personality, individual circumstances, national genius, &c., as factors in the formation of systems. The two dangers to avoid in writing the history of philosophy are "lawless individualism" and "abstract logical schematism". Of these the second is the greater: and accordingly he tries to exclude as much as possible from his exposition the influence of his own conclusions as to the true direction of thought; merely indicating them in the Introduction and at the end. Modern philosophy has hitherto been predominantly "intellectual," as ancient philosophy was "æsthetic" and mediæval philosophy "religious". This character is associated with its character as "anti-scholastic". To the specifically modern tendency of thought Kant stands opposed and superior, as Plato did to the specifically Greek tendency. Kant has assigned its limitations to the naturalistic and mechanical explanation of things and has opposed "moralism" to "intellectualism," by showing that "nature must be conceived from the point of view of spirit (as its product, for all law has its origin from spirit) and spirit from the point of view of will". Fichte's "Ethelismus" and Hegel's "Historismus" have their roots in the Kantian doctrine of the practical reason. The problem of the future seems to the author to be the renovation of the Idealism of Fichte and Hegel by a method that shall keep closer than theirs did to experience, that shall know how to estimate in all their bearings the results of the sciences of nature and man, and that shall proceed by severe and cautious demonstration (p. 471).

Die Philosophie des Thomas von Aquino und die Kultur der Neuzeit. Von Dr. Rudolf Eucken, Professor in Jena. Halle a. S.: C. E. M. Pfeffer (R. Stricker), 1886. Pp. 54.

In view of the modern Neo-Scholastic movement, the author has set himself to show what was the historical position of Thomas Aquinas and the actual result of his philosophical activity. He contends that only from the unhistorical point of view of the Middle Age could it seem possible to reconcile Christianity with the philosophy of Aristotle, the most remote of all ancient philosophies from Christian modes of thought, as was judged more correctly by an earlier Christian age. Although philosophy is subordinated to revelation in a way that is impossible for modern thinkers, who, even when they submit to authority, feel the necessity, as mediæval thinkers did not, of first justifying it; yet in the Thomistic system the ancient thinker often conquers the Christian. More is conceded to rationalism than agrees with the spirit of Christianity. And in content as well as in method, elements of thought that are foreign to Christianity gain admittance. There is, for example, in the system of Thomas as in that of Aristotle, "the hegemony of the intellect,"—the placing of the contemplative above the active virtues, of the theoretical above the practical reason. Thomas himself was not, *as a thinker*, distinctively Christian; being of the type of Aristotle and Leibniz rather than of Plato and Kant. On the points where Aristotle and Mediæval Christianity are in absolute agreement, they are in opposition to the modern spirit, and, in face of the changed condition of things by which changes of thought have been caused, it is hopeless to seek in the Thomistic system solutions of philosophical and social problems of which it was constructed in complete unconsciousness.

Even those who return to Thomism find it impossible to be "Thomist in the sense of Thomas". We may return to the past, but we do not find it again as it actually was. In conclusion the author expresses his high admiration for the great mediæval thinker and his work, points out the importance for criticism of "a system in which Aristotle, Plotinus and Augustin meet," and concedes the right to take a polemical stand on Thomism in order to draw attention to the defects of modern life ; but finally again insists that it is as impossible really to return to the thoughts of the Middle Age as it is to restore the past otherwise than in memory.

Die Seele indischer und hellenischer Philosophie in den Gespenstern moderner Geisterseherei. Von ADOLF BASTIAN. Berlin : Weidmann, 1886. Pp. xlviii., 223.

The author's present contribution (coming after so many others) to the science of *Völkerpsychologie* deals with the idea of the soul, not only as it has existed in Hindu and Greek philosophy, but also as it exists in modern times among the higher as well as the lower races of mankind. In tracing the history of the related conceptions, he takes occasion to show, with the aid of his enormous reading, how all the features of "the new witches' kitchen" of Spiritualism, Theosophy and Esoteric Buddhism have been long since anticipated in the magical doctrines and practices of savages and in the survivals resembling them in historical religions and philosophies.

Raumanschauung u. Formale Logik. Von ALFRED Freiherrn v. BERGER, Jur. et Phil. Doctor. Wien : C. Konegen, 1886. Pp. 48.

This is a hostile criticism of the thesis maintained in F. A. Lange's posthumous *Logische Studien* (see MIND, Vol. ii. 278 and, more at length, iii. 112)—that "the intuition of spatial figures exhibiting concepts and their logical relations is the source of our conviction of the necessity and universality of the rules of formal logic". Against this position, which implies in Lange's view that they must have the character of synthetic judgments *a priori*, the author would uphold Kant's doctrine that they are strictly analytic, in dependence on the law of contradiction.

Ueber Wesen und Wirkung der Tragödie. Eine Untersuchung von Prof. Lic. ADOLF WETZ. Berlin : C. Duncker's Verlag (C. Heymons), 1886. Pp. 79.

The author defines tragedy as "the poetic representation of the dæmonic". By "the dæmonic" he understands those events in human life which are apt to be ascribed to a hostile power in nature. All events are determined ultimately by a balance of forces : "the order of the world is mechanical, not moral". Any fault of miscalculation (which may also be, but is not necessarily, an ethical fault) may therefore bring upon its perpetrator an altogether disproportionate evil. It is this disproportion (from the ethical point of view) of an action and its consequences, that constitutes "the dæmonic". The embodiment of universal humanity and its fate in the individual character and fate of the hero gives rise to the "dramatic illusion," by which the spectator sees himself in the hero—or rather in each person of the drama in turn—and sees, concentrated in the sufferings that are represented on the stage, all the possible attacks, from which in the conflicts of life he is never secure, of the dæmonic powers of nature. Having, by this identification with the hero, as it were, lived through all that is represented before him, and suffered in the person of another the worst that fate can inflict, he now feels himself set free for ever (although in reality the feeling of liberation can only be temporary) from dependence on external forces, exempt from all the strokes of fate.

This is the Aristotelian *κάθαρσις*, as dread of the possible "dæmonic" events of life and identification with the hero are, respectively, the Aristotelian "terror" and "pity"; there being, in the author's view, this difference, that the *κάθαρσις*, according to Aristotle, is only the getting rid of an oppression, and therefore negative, while the sense of freedom, as he understands it, is a positive heightening of the feeling the mind has of its own power. He goes on to argue, in the concluding part of his essay, that this sense of freedom from subjection to the external order is the end of all religion and philosophy, as well as of all art; drawing finally a comparison between the psychological effect of tragedy and the effect that is contemplated as the end of "the Pauline faith". In both cases there is "liberation through internal experience by means of participation in the external experience of another".

Die Italienische Philosophie des neunzehnten Jahrhunderts. Von Dr. Karl Werner. Vierter Band: "Die Italienische Philosophie der Gegenwart". Wien: G. P. Faesy, 1886. Pp. ix., 281.

The present volume of Dr. Werner's extensive work (see Mind 41, p. 132, for the foregoing one) is devoted to contemporary Italian philosophy. It deals in order with "Naturalistic Positivism and Evolutionism" (pp. 1-59), with Kant-studies (pp. 60-84) and Vico-studies (pp. 87-118), with the "Eclectic Idealism" of Tagliaferri, Labanca and Allievo (pp. 119-175), and with the modern representatives of the schools of Rosmini and Gioberti (pp. 179-277). The account that is here given of the philosophical movement in modern Italy is not only minute and accurate, but impartial and, from the author's point of view, appreciative. He regards Vico as the representative of the national genius of Italy. With Vico, accordingly, any future attempt to renovate Italian philosophy must put itself in relation. The aim of philosophy is to express the common thought of humanity. This the pre-Christian merely national philosophy of Greece did imperfectly. In the Christian period the common thought of humanity found its normal expression in the Christian view of life and the world; and this common thought the different Christian nations have had to make specific. Thus there are two kinds of comprehensive philosophical activity—the expression of that which is generic in Christian thought, and the expression of this thought as it takes a specific national form. A classical representative of the first kind of activity is Thomas Aquinas; of the latter Vico is a pre-eminent example, his philosophy in its original features being "the incarnation of the Italian national spirit". The Italian philosophy of the future, in attaching itself to Vico, will have for one of its tasks to conciliate the national idea with the idea of the Church. Modern Christian philosophy generally is related to non-Christian naturalistic philosophy as Scholasticism to the Arabian philosophy of the Middle Age. Its task is to appropriate it; but there is a difference between the two periods that determines a certain difference in the relations of theology and philosophy. The thought of an immediate ordering of philosophy within theology must be given up. "Only a philosophy standing on its own basis is capable of bearing witness to Christian truth." Such a philosophy must be primarily a comprehension of man by himself. This is attained especially by the study of history of philosophy, which thus becomes the best foundation for a philosophical theology. It is in proceeding from the self-comprehension of humanity as attained by the historical method, not in proceeding directly from an ontological doctrine, that Christian philosophy in Italy must meet the positivist and naturalistic direction of thought, itself a re-action against a one-sided Platonism, and appropriate its results, while keeping in relation, on the other

hand, with the Thomistic philosophy of the Church. This idea of a conciliation of Thomism and science (understood in the widest sense) was the leading thought of the opening passage of Dr. Werner's first volume; and with it he now concludes the last volume of the general part of his history.

Hypatia von Alexandria. Ein Beitrag zur Geschichte des Neuplatonismus. Von WOLFGANG ALEXANDER MEYER. Heidelberg: G. Weiss, 1886. Pp. 52.

The thoroughness of this study may be seen from the list of books consulted (pp. 51-2). The first section (pp. 6-33) gives all the facts that can be ascertained with regard to Hypatia. In the remaining sections an attempt is made, from the very slight materials available, to determine her probable philosophic position. The author arrives at the conclusion, chiefly from what is known of Hypatia's studies in mathematical and physical science, but also from some other indications, that "she had nothing in common with the Romantic reveries" of Iamblichus and his school, but was probably nearer in spirit to the classical sources of Greek philosophy than any of the Neo-Platonists except Hierocles, rejecting even the comparatively small element of theurgy and mysticism that is to be met with in Plotinus and Porphyry.

RECEIVED also:

W. Graham, *The Social Problem, in its Economical, Moral and Political Aspects*, London, Kegan Paul & Trench, pp. xx., 480.

G. S. Morris, *University Education* (University of Michigan Philosophical Papers, I.), Ann Arbor, Andrews & Witherby, pp. 40.

W. D. Granger, *How to care for the Insane*, New York, Putnam, pp. x., 96.

M. A. Vaccaro, *La Lotta per l'Esistensa e i suoi Effetti nell' Umanità*, Roma, F. Setth, pp. 149.

A. v. Eye, *Wesen und Werth des Daseins*, 2te Aufl., Berlin, Allgemeine Verlags-Agentur, pp. vi., 310.

N. Grabowsky, *Die Bestimmung der Menschen*, Berlin, Duncker, pp. 112.

R. Schellwien, *Optische Häresien*, Halle a. S., C. E. M. Pfeffer (R. Stricker), pp. iv., 98.

R. Wallaschek, *Ideen zur praktischen Philosophie*, Tübingen, Laupp, pp. iv., 150.

B. Zimmels, *Leo Hebraeus, ein jüdischer Philosoph der Renaissance*, Breslau, Kœbner, pp. 120.

G. Mayer, *Heraklit von Ephesus und Arthur Schopenhauer*, Heidelberg, C. Winter, pp. 47.

Religionsphilosophie auf modern-wissenschaftlicher Grundlage, mit einem Vorwort von J. Baumann, Leipzig, Veit, pp. vi., 230.

K. C. F. Krause, *Abriss des Systemes der Philosophie*, Leipzig, Schulze, pp. vi., 210.

G. Class, *Ideale u. Güter*, Erlangen, Deichert, pp. 188.

H. Druskowitz, *Moderne Versuche eines Religionsersatzes*, Heidelberg, Weiss, p. 90.

Fr. Kirchner, *Wörterbuch der philosophischen Grundbegriffe*, Heidelberg, Weiss, pp. 459.

Aristotelis περὶ ἑρμηνείας interp. est Fr. Michelis, Heidelberg, Weiss, pp. 84.

A. Thilo u. O. Flügel, *Dittes über die praktische u. theoretische Philosophie Herbarts*, Langensalza, Beyer, pp. 67.

NOTICE of most of these will follow.

VIII.—NOTES AND CORRESPONDENCE.

RECENT REVOLUTIONS IN JESUIT PHILOSOPHY.

[The following communication is from the hand of one who is believed to be in a position to speak as he does concerning the events in question. Names of persons and places are withheld, but can be supplied.—EDITOR.]

It is by no means uninteresting to study, with the eye of an impartial outsider, the vicissitudes undergone by the philosophical doctrines of the Jesuits during the present century, that is, since the bull '*Solicitudo omnium Ecclesiarum*' undid, in 1814, what the bull '*Dominus ac Redemptor Noster*' had done forty years before. Two important questions have caused, during this period, many internal dissensions among them: one, concerning the origin of ideas; and the other relative to the ultimate constituents of matter. Both have been finally more or less decided; not indeed in themselves, but only as to the doctrine that professors belonging to the Society are exclusively bound to maintain. I propose to set down a few details about the circumstances under which these decisions took place, in so far as they are known to me either personally or by information received from members of the Society.

As in the Roman Catholic Church there are certain religious dogmas that every member of that Church is bound to believe, so among the Jesuits there are certain philosophical doctrines that every professor is bound to teach. This of course supposes a considerable difference between these two obligations, both in themselves and relatively to those who are bound by them. Still, when we reflect upon the spirit of obedience and discipline so carefully fostered amongst the Jesuits, we must not wonder if we find that an order for professors to teach such and such doctrines obtains in a few years the result intended, *viz.*, that the great majority of Jesuit students unhesitatingly reject the contrary opinions as not worth a moment's consideration, unless for the purpose of refuting them. And indeed, besides the higher motive of obedience which is the very life of the Order, and which, as St. Ignatius says in his famous *Letter on Obedience*, ought as far as possible to direct the mind as well as the will, there is also a lower motive, more closely resembling ambition. I do not speak of that *esprit de corps* that inclines most people to 'home' opinions—which makes Englishmen empirical psychologists and Frenchmen Cartesians; though this has certainly its effect upon most minds. But every clever student of philosophy among the Jesuits knows that, should he be one day chosen as professor, he will have to teach in such and such a manner, determined beforehand. True, he may teach it as he chooses: he may affirm the absurdity of the contrary opinion, or state that it is not in accordance with facts or dogmas, or set it down as improbable, or merely as less probable; he is even free to attribute probability to the position he maintains, without saying anything at all about the other. Moderation, however, is a rare phenomenon, and though the 'absurdissimæ ineptiæ,' the 'evidentissimè evidens,' the 'delirament a,' the recommendations to take a dose of hellebore, &c., so frequently found in Father Liberatore's (and others') text-books, are very generally laughed at by both students and professors, it would not be hard to name a professor who at a certain college in France (in 1877-1878) got in hot water for being too outspoken in favour of Descartes. It is true that this was not the only cause of his unpopularity amongst the students.

On the other hand, there are three different opinions circulating amongst the Jesuits as to how far such 'orders in council' have to do with the consciences of students or professors. One, which I believe is pretty generally reprobated, asserts that it is quite sufficient for the student to learn, and for the professor to teach, what is laid down, but that each man is perfectly free to enjoy his own opinions. The second, less reserved but more consistent with the spirit of the Order, does not oblige students and professors to *believe* the propositions in question, but only sincerely to seek truth in that direction, because it is more probable to find truth in the field where they are directed to look for it. The third opinion, seldom maintained to the north of the Alps and the Pyrenees, though held some years ago, to my knowledge, by the ghostly father of more than 120 students of philosophy and theology in one French college, obliges every member of the Society to believe, or at least to do his utmost to believe, that the propositions laid down for his acceptance are true. 'If these propositions are not evidently absurd, you can as easily believe them as you can a dogma of the Church; and if they are evidently absurd, you had better leave a Society that orders you to learn or teach absurdities.' This seems to me bringing faith into the philosophical field with a vengeance.

In a word, the very best and most practical means that can be taken to stamp out an obnoxious opinion from an intelligent and highly cultivated community of men are employed when thought necessary by the superiors: therein lies both the strength and the weakness of the Jesuits in the way of philosophical doctrine. Every man not only says the same (which is much), but is convinced of the same (which is more). It follows that they have great influence over those who are of their own religion, who do *not* know, and who must look up to some one for explanations. These are aware that what one Jesuit says, more than five thousand others[1] will be ready to say and defend throughout the whole world. To get an opinion from a Jesuit is to get the well-deliberated, matured and settled opinion of the whole Order. On the other hand, this very unanimity is with others a reason for taking no account of their opinions. Philosophers who like to think for themselves are apt to look with contempt on this kind of intellectual drill. Perhaps with too much contempt; for the Jesuits are after all very practical men, and if the esteem of the different schools of modern Philosophy that would be assured to the Society if every Jesuit was allowed to teach a different theory was really *worth* more than the strength of unity resulting from the opposite process, the heads of the Order would very probably take immediate steps to gain that esteem. Besides, this contempt seems inconsistent at least in such as belong to that very numerous school that thinks "it is as much beside the mark to wrangle over the truth of a philosophy as over the truth of *Paradise Lost*". (J. A. Stewart, MIND, Vol. iii. 240.) If the speculative truth of Philosophy is nothing, why despise the Jesuits' proceedings, that are practically speaking, so advantageous? What is the good of freedom when it is no matter (speculatively) what we think? And still more may be said: the doctrine held by a Jesuit, though not of account otherwise than as he is able, personally, to give it a superior expression, is important as the result of a vast amount of reflection, deliberation and patient thought. When, for instance, the Jesuits chose as their own doctrine the indeterminism of Molina, it was by no means a simple rivalry with the Dominicans that decided them. Molina's work on *The Reconciliation of Grace and Free Will* was printed in

[1] Amongst the 9000 Jesuits now in existence, I make a large deduction when I suppose 4000 (lay brothers, novices, humanists and regents) to be unacquainted with Philosophy.

1588 ; the Congregation '*De Auxiliis*' was held in 1597. Year after year, month after month, the best and ablest heads amongst the Jesuits had sifted and re-sifted the question until it was completely exhausted: then, and only then, did the heads of the Order come to a determination. But the history of the Order in this century presents two cases of extraneous interference, which however justifiable they must appear to any Roman Catholic, will—to those who only seek in the doctrines of the Society an independent conclusion reached by the united labours of many learned men—be necessarily excepted from the last-mentioned justificative plea.

During the first half of this century, Ontologism was a highly popular system amongst many Jesuit fathers, especially in France. By 'Ontologism' was meant a peculiar system, to a certain degree similar to, if not identical with, Malebranche's Idealism, that placed the origin of ideas in the intuition of Divine Being. There were different shades of opinion and different modes of explaining this intuition. If we *see* anything to be necessarily, eternally and absolutely true, we have the intuition of its necessary, eternal and absolute truth. Now, if so, we have an intuition of God ; for God *is* necessary, eternal and absolute Truth. The difficulty, how such an intuition differs from the 'vision of glory' enjoyed by the saints in heaven, they got over by a distinction between *extuitive* and *intuitive* intuition, which is perhaps worth as much as many other distinctions.

But a great conflict soon sprang up in the Society between those who held these new opinions and those who stood by the ancient doctrine 'Nihil est in intellectu, quod non prius fuerit in sensu.' Aristotle's position, that all knowledge takes its origin from sensation, had been that of the Society before its dissolution, and the late Father ———, in particular, fought hard for the old doctrines. His endeavours were crowned with success. The Father General applied to Rome in order to know what was officially thought of Ontologism. The reply of the Congregation that he consulted was, 'Non tutò doceri potest'. He thereupon immediately excluded Ontologism from being taught as a probable doctrine in any of the Society's colleges. The submission of the professors appeared complete ; one of them even went so far as to argue very forcibly the next day against the very system he had so long upheld as the only true one ; at least, I heard this as a tradition, handed down from generation to generation of students. All would not do, however. The system had got intertwined with the very fibres of their thoughts ; they explained everything by it, and could explain nothing without it. So they were rapidly superseded ; a new generation of professors sprang up in a few years, while the others either retired to confess ladies in quiet Residences or departed to convert savages in Eastern or Western Missions. A few only remained at the time when I had the advantage of being acquainted with the Jesuits—old men of whom the students said to each other, 'Father So-and-so was a famous Ontologist in the days of Ontologism'.

A yet more serious subject of internal dissensions remained. The ancient and time-honoured system of Matter and Form was flatly denied by the new Atomists. Father ——— this time was among the latter, because he said they had physical and chemical science on their side, and that Aristotle himself, had he lived in our days, would have been an Atomist. On the other hand, his adversaries contended that the question was meta-, that is, supra-physical, and one in which no discoveries, were they ever so important, could make the least change. The disputes waxed fiercer and hotter every day. Each occasion of 'Menstruales Disputationes' was seized to bring forward the question. It was said that scandals had taken place in the Roman College itself ; that grave fathers had, in the heat of discus-

sion and of warm Italian blood, openly loaded each other with epithets hardly consistent with charity. To put a stop to this, Father Beckx wrote a 'general epistle,' in which, while distinctly permitting every professor to choose the opinion he preferred and to defend it in class, he prohibited all mention of the question in any public dispute. Different schools of thought were immediately formed among the pupils, since perfect liberty was given; and philosophical disintegration, hindered on other points by the strong hand of authority, soon divided every Jesuit 'scholasticate' into camps as hostile concerning this matter as their outside contemporaries—Kantians, Hegelians, or Positivists—are to each other. Some students were pure Thomists—called 'exaggerated' by the other shades of opinion—who affirmed that matter was by itself only an '*ens viale*' (a *being on the way to be*) possessing no existence but that given by the form; having only a real *essence*, and that an incomplete one. Others, moderate Thomists, held with Suarez that matter having an incomplete essence has an incomplete existence too: for real existence and real essence are not two different things, but one and the same. Some, trying with the subtle Father Lanzilli[1] and others, to effect a compromise, admitted the existence of ultimate atoms, which atoms were made up of matter and form. All these schools, it must be remarked, maintained (the great point in dispute) a *real*, not a *fictive*, difference between matter and form—so that they were not only two different aspects of the same reality, but two different realities that completed, by pervading each other: matter, by its power of receiving form; form, by the act that was received in matter. Others, on the contrary, interpreted the words 'matter' and 'form' as a mere double aspect of the same thing; and whatever arguments were urged in favour of a distinction between the two only amounted, in their opinion, to the proof of a logical distinction. First stood the followers of Tongiorgi, in whose valuable text-book, long a rival of Liberatore's, atoms were admitted as extended in space, but physically indivisible, though composed of parts; then the partisans of Boscovitch, whose 'puncta simplicia' or atomic centres of force were, however, held by only a few scientific fathers, bravely asserting 'Actio in distans' though they confessed they did not understand how it was possible; lastly, those who adopted Father Palmieri's bold hypothesis of atoms not really but *virtually* extended—atoms without real parts yet filling up real space—which cut short a great many difficulties, but created many more. The vortex-theory of Sir William Thomson was not discussed, nor, so far as I am aware, even known to exist by the generality of students.

The Thomist fathers, invoking the ancient rules of the Society, had, it is said, often applied to Pope Pius IX. to coerce their brethren into a way of thinking more conformable with the philosophy of St. Thomas; but Pius IX., except in so far as vague and general exhortations went, would do nothing to interfere with the ordinary course of things. When Leo XIII. succeeded him, a vague dread of interference fell upon all those of the Society who were Atomists, and a vague hope filled the breasts of their adversaries for the same reason. It was well known that Cardinal Pecci, the present Pope's nephew, had been a member of the Society and a zealous Thomist; indeed I heard from the lips of Father ——— himself that he had left the Society because its teachings were not sufficiently conformable to those of the Angelic Doctor. Vague rumours were soon

[1] Father Lanzilli's works were considered too full of philosophical novelties to be printed: I only saw them lithographed *ad usum scholarum*. They affect the number three: every chapter, three articles; every article, three propositions.

spread that Leo XIII. was going to condemn Atomism, or to do something in that way; but these rumours were repeatedly denied from head-quarters.

In the beginning of autumn 1878, the students of the French college, to which I have before referred—I only give details of what I personally know—were in an unusually excited state. It was known that the Rector had received letters from Rome, and it was confidently believed, both by Thomists and ultra-Thomists, that these letters had to do with the doctrine of Matter and Form. They were, however, only a personal reply from the Father General to the effect that Leo XIII. had, in recommending the study of St. Thomas to the Society of Jesus, avoided any particular commentary or hint as to a change of doctrine in any direction whatever; that consequently the situation was exactly the same as at the time of his former letters, of which he mentioned the date and contents. I feel convinced that the Society had no intention to choose, of its own accord, any decided position as regards this most difficult problem; but if it be true, as I heard it confidently asserted, that the question whether Atomism (!) ought not to be made a doctrine of the Society was mooted in the councils of the Order, and almost resolved in the affirmative,[1] the sequel shows that they acted very wisely in not adopting that system. For about two or three days after the letter I mentioned had been received, a bell called the scholars one afternoon, at an unusual hour, into the lecture-room. The professors were present. The Rector read another letter from Father Beckx: it stated simply that he had been desired to render the teaching of the Society more in harmony with that of St. Thomas; and that, having inquired of the person who brought that communication from the Pope in what direction that modification was to be made, he had been answered, 'In the question of the ultimate constitution of matter'. Thereupon, following the direction of Pope Leo XIII., he gave orders that in future the real distinction of matter and form should be taught in all colleges of the Society, and concluded with a short exhortation to the partisans of the different schools, advising humility on the one hand and submission on the other. The letter was worded with extraordinary care, so as to show entire personal neutrality in the matter, and seemed rather to be the notification of Leo XIII.'s will than a decree for which Father Beckx was himself responsible.

The effect was, of course, instantaneous. All disputes from member to member were stopped at once. Many of the most determined partisans of Atomism now turned *à la minute* into Ultra-Thomists, thereby affording considerable amusement to the vanquished and as much annoyance to the victorious party, who very rightly considered their sudden conversion as too strange to be anything but a joke. Others took the matter more seriously, and refused to budge one inch from their old positions. What was true before F. Beckx's letter was just as true afterwards; the worst that

[1] Father Beckx was not a philosophical but a practical mind. He understood the necessity of unity in teaching, and, whilst he allowed full liberty of opinion to all, watched carefully which way the tide of public opinion was setting amongst the philosophers of the Society. When he saw that the majority was decidedly in favour of Atomism, he set to work prudently and slowly, eliminating those professors who were opposed to it; so much so, that all the teachers at the Roman college were at last Atomists. Hence the rivalry with the Dominicans who professed the opposite doctrines; and hence it is certain that Leo XIII.'s 'gentle hint' was intended, by those who counselled it, to be a blow at the Society, which could not honourably refuse to take the hint, although it was so much opposed to the opinion of the best minds among them.

could happen to them was never to become professors, and they were quite resigned to that. Many took the advice of the ghostly father I have before referred to and did their best to believe that matter and form were really distinct.

It must be remembered, in order to understand this, that Jesuits profess absolute and perfect obedience to the Holy See in all that concerns the teaching or even the very existence of their Order. The Indeterminism of Molina, opposed to Thomist Determinism as understood by the Dominicans, is one of the doctrines for which the Jesuits have battled most stoutly, and yet it would suffice for Leo XIII. to say one word for them to take up the pen in favour of Determinism.

Two years after the events just recorded, my relations with the Society ceased altogether; I cannot, therefore, now say whether Atomism is dying out or no. In all probability it is. The 'scholasticates' are recruited by novices and humanists on the one hand, for whom the question is prejudged as settled by superior wisdom, or on the other by men who are already tired out with work and care little for metaphysical subtleties. On neither side is there likely to be any determined resistance to the all-pervading influence of Matter and Form. Probably in a few years the last representatives of the Atomistic school will have died out; for only professors are generally known to have held such opinions, and Jesuits, whether professors or others, rarely pass the age of sixty.

PROF. LLOYD MORGAN ON THE STUDY OF ANIMAL INTELLIGENCE.

In common, no doubt, with all the other readers of MIND, I have been much interested in Prof. Lloyd Morgan's views on what I may term the antecedent impossibility of a Science of Comparative Psychology; but an attentive reading of his paper in MIND 42 fails to show me any material change in those views as previously published by him in *Nature*. May I refer any of the readers of MIND who care to follow the subject to the somewhat elaborate examination which I have already made of them in the pages of *Nature*? This will be found in one of the numbers for February, 1884.

GEORGE J. ROMANES.

THE ARISTOTELIAN SOCIETY FOR THE SYSTEMATIC STUDY OF PHILOSOPHY. —At the meeting of March 8, the discussion of T. H. Green's *Prolegomena to Ethics*, Book i., "The Metaphysics of Knowledge," was continued, being again introduced by the President's bringing forward some objections to the theory from *marginalia* of his own. On March 22, Mr A. F. Lake continued the examination of Kant's *Critick of Practical Reason*, going down to the end of the "Dialectic"; and this subject was concluded on April 19, by a discussion of the whole theory, introduced by a paper from Mr P. Daphne on the "Methodology". The meetings of April 5, and May 10 and 24, were occupied respectively by papers from Mr G. J. Romanes "On Mind-stuff in relation to Theism"; from Professor Bain "On the Association of Ideas"; and from the Rev. A. L. Moore, "On Design in Organic and Inorganic Nature"; which in every instance gave rise to interesting and animated discussions. The latter paper concluded the philosophical work of the Seventh Session of the Society.

Mr. James Seth has been appointed to the philosophical chair in Dalhousie College, Halifax, N.S., vacated by Prof. J. G. Schurman, now of Cornell University, N.Y.

THE JOURNAL OF SPECULATIVE PHILOSOPHY.—Vol. xix., No. 4. A. P. Peabody—Is Pantheism the legitimate outcome of Modern Science? E. Montgomery—Ditto. W. T. Harris—Ditto. G. H. Howison—Is Modern Science pantheistic? P. Spence—The Facts about External Perception. Notes and Discussions, &c.

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—Mr. JAMES WARD'S "PSYCHOLOGY".[1]

By Professor Alexander Bain.

It had been known for some time that Mr. James Ward would contribute to the *Encyclopædia Britannica* the important article "Psychology"; and the expectations formed of it were very high. Allowance being made for the limited space, these expectations have been amply justified. The thorough knowledge of previous works, the freshness of the handling, the never failing acuteness, the light thrown upon many of the dark places of mental science,—constitute the work a signal achievement of philosophical ability. Much that belongs to a full exposition is necessarily omitted; and the problems commonly called 'philosophical' and also 'metaphysical,' are not comprised. The work has the rare merit of being Psychology, and nothing but Psychology. It is nearly complete as regards fundamental problems, and the ultimate analysis of the distinctive properties of mind: a densely-packed dissertation, abounding in clear, though brief, indications of the author's mode of solving the long-standing difficulties of our mental constitution.

Of course, the starting-point is the definition of Mind,

[1] *Encyclopædia Britannica*, xx., 37-85.

which must be at best provisional at the outset. Mr. Ward, in his first section, "The Standpoint of Psychology," proceeds by remarking first on the contrast of Internal and External, which is fallacious from the failure of space-relations in speaking of the mind as compared with the body. This he indicates as clearly as could be done, without anticipating a difficult problem. The second contrast—Mental and Material—he also disposes of with equal justice. He does not, for some reason, avail himself of an enumeration of physical properties—Extension, Resistance, and so on—to lead up to the ambiguous borderland of matter and mind; but he allows us to feel at once that the transcendental question of an external world must be reckoned with, if not satisfactorily disposed of, in order to make this contrast the basis of a definition. His own definition turns upon the word 'individualistic'; which is not to define by subject-matter, but by the standpoint for viewing our experience. His real definition for expository purposes consists in enumerating the ultimate constituents of mind, very much as is done by everybody in the present day.

Leaving the definition, we are invited to discuss the "General Analysis of Mind; its Ultimate Constituents". There cannot be less than three, as in the propositions—I feel somehow, I know something, I do something. But now—who is 'I'. Must there not be an entity distinct from feeling, knowing and doing, and having a common relation to all the three? On this point Mr. Ward is very decided. Everything mental must be referred to a Self; something of the nature of the pure Ego of Kant, which he opposed to the empirical Ego. Previous attempts to extricate the subject are severely criticised in their order. The nature of such criticism will be appreciated if we take up the first of them.

According to Hume, the mind or soul is simply "the name for the series of mental phenomena which make up an individual mind". But as we undoubtedly are self-conscious beings, that is, are aware of what happens to us as recipients of impressions, and affected in various ways, how can a series be aware of itself? Agent and patient are never together in the same act. Knowing and known must be different.

As to "a series of states being aware of itself," I confess I see no insurmountable difficulty. It may be a fact, or not a fact; it may be a very clumsy expression for what it is applied to; but it is neither paradox nor self-contradiction. A "series" merely contradicts an individual, or it may be

two or more individuals as co-existing; but that is too general to exclude the possibility of self-knowledge. It certainly does not bring the property of self-knowledge into the foreground, which, however, is not the same as denying it. An algebraic series might know itself, without any contradiction: the only thing against it is the want of evidence of fact. So, again, the word "state" is equally guiltless of denying self-knowledge; its fault is that it is so general as hardly to deny anything.

We have undoubtedly got into the way of describing our mental furniture by a verb whose grammatical subject is 'I' or 'We'. Is this merely figurative, or is it the one and only way of stating the phenomena? If it is a figure, the figure may change; if it is more than a figure, if it is the only adequate description of the situation, it certainly commits us to Mr. Ward's conclusion that there is a subject more or less different from the acts of knowing, feeling and acting.

I am not, however, convinced of the absolute, indefeasible necessity of adopting this form of language. In speaking of our mental energies, we can hardly avoid some sort of personification; at least, we find it a convenience and a facility to have a something 'in the chair,' through whom the actions and re-actions of the mind can take place. But what the chairman is to be in his own independent character, is not so easy to settle. One quality of the subject, which Mr. Ward lays great stress upon, is re-active attention, by which the mere physical intensity of sensation is heightened, other things remaining the same. But, as we proceed, we find the properties of the Subject gradually extended, until in the final formula for the ultimate constituents of mind, it absorbs all the three elementary properties — cognition, feeling and conation—and leaves only sensory and motor presentations, or what we should call 'sensation,' were it not that the element of feeling is withdrawn.

It is this final aggrandisement of the Subject that staggers me. In fact, it is the whole mind, with the exception of the first impressions of sense considered purely as elements of knowledge. The active verb 'I feel' is not analysed into a subject that feels and a state of pleasure or pain. But the total capacities of the mind, in respect of feelings, will and the higher elaboration of knowledge, make a Subject, to which our first impressions of the object-world constitute the object. It is only with knowledge that the division into the knowing and the known is imperative, on pain of self-contradiction.

But Mr. Ward does not seem to me to hold steadily by the Subject, as thus made up. Immediately after giving his tabular scheme, he says that "reproduction, association, agreement, difference, and all varieties of thinking and acting, are to be explained by the laws pertaining to ideas or presentations, leaving to the Subject the one power of variously distributing that attention upon which the intensity of a sensation in part depends". Again he gives us three irreducible facts—attention, feeling, and objects or presentations —the two first being subject. He admits that it looks paradoxical to say that we have no knowledge but of presentations; and replies that attention and feeling are known indirectly by their effects upon presentations, while the subject *quâ* subject cannot be presented.

Now, it is our duty to receive any suggestions calculated to improve our nomenclature of the ultimate facts of mind. I accept the doctrine of the Subject in the meantime, with certain provisos. One is that it shall not be a nucleus and hiding-place of mysticism; another, that I may take it up and put it down as may seem convenient. I admit, however, that this last begs the question at issue, namely, whether it is any more than a verbal convenience, or useful fiction. Yet, I do not see any insuperable difficulty in making the mind the collective 'Ego,' when Mr. Ward admits that the three facts, Feeling, Conation, Cognition, include everything. Kant's pure Ego would seem to be a much more attenuated article than Mr. Ward's, which includes the whole of Attention, the whole of Feeling, and a somewhat uncertain share of Cognition.

I do not find that, in the later disquisitions on Feeling and Will, much is made of the circumstance that these two go far to make up the subject, to which all knowledge from the outer world is addressed. At the same time, I am aware that the recognition of Subject in some such way as here proposed will be productive of comfort to many persons.

Mr. Ward's next important innovation in the treatment of fundamentals is his mode of expressing the unity of consciousness by the term "continuum," as a substitute for the old designations—train, series, sequence, transition. He thinks that by the usual modes, the discreteness of the successive individual presentations is made too much of, and the continuity too little. He argues that a mental succession must be treated as a whole, for two reasons. The first is grounded on fact, namely, that special attention to any single member diminishes the intensity of presentation of the rest, while the recurrence of one by association entails the re-presenta-

tion of the other. The second is a matter of hypothesis, which is, that the distinctness of the separate members of our mental trains grew out of a process of differentiation from a primitive homogeneous current.

Now it is obvious that our language must provide for both the separateness and the unity or continuity of the stream of thought. Yet my fear is that "continuum" rather inclines us too much to the other extreme. Moreover, I am not aware of any erroneous tendencies due to the previous phraseology; at all events, I think it could be used without implying any dangerous amount of independence among the terms of mental succession. A train of impressions, presentations, ideas, may have any amount of coherence and dependence, that we may choose to assign; while the word does not sink the circumstance of plurality. That the successive members of a train should be regarded as parts of one whole, is not only unnecessary but misleading. The idea of part and whole is extended beyond ordinary usage; in the same way that 'redintegration' expresses too much as a name for reproduction by means of association. Except as a variety of expression suitable on occasions when the continuity of a series of states has to be emphatically set forth, I am not convinced of the need for this innovation. The hypothesis of differentiation will come up again.

Before finishing his survey of fundamentals, Mr. Ward discusses particularly the motor presentations or movements; and connects with the discussion the germs or beginnings of Conation or Action. We are here at once in the very heart of abstruse psychological theory. It is better for us, however, in our review, to pass on till the handling of the will is given in all its completeness. We shall therefore consider that the fundamentals have been given, and proceed to the detailed and systematic working out.

The commencing topic is "Theory of Presentations," and this is followed by related matters under the head of Cognition, as Sensation and Movement, Perception, Ideation or Imagination, Association. Feeling is in abeyance throughout.

The starting-point is Differentiation from a primary homogeneous continuum. "Psychologists have usually represented mental advance as consisting fundamentally in the combination and re-combination of various elementary units, the so-called sensations and primitive movements, or, in other words, in a species of mental chemistry." Not altogether without reason, as it seems to me. Our education from first to last takes principally the form of adding unit to unit,

under the retentive or adhesive attribute of our nature, with which we are so marvellously gifted; and any other process of development is quite secondary in comparison. If we add the great extension of our resources by similarity, or transferring old adhesions to new connexions, I think there is comparatively little left to correspond to a process of differentiation. There is indeed something, and that something is also of importance, namely, improvement in our powers of discrimination. Even our primary sensibility to differences of colour, or tone, can be cultivated, as is generally believed; and we may, if we please, call this "differentiation of a continuum". To take Mr. Ward's example, the steel-worker sees half-a-dozen tints, where others see only a uniform glow. It is to my mind sufficient to describe this as the education or cultivation of a difference. I see nothing gained by stating it otherwise. Every new shade of difference is a new presentation. If I were to use the word "differentiating" I would not couple it with a continuum, but with a uniform effect: continuity, in the meaning of sequence, has no relevance.

With many of Mr. Ward's statements as to the facts of our presentations I thoroughly agree. I perfectly admit that what we usually call a sensation of one of the senses does not typify an elementary presentation. I also admit what he says as to one circumstance in the effect of repetition upon our sensations, namely, when they are complex, as from a flower, to make us more and more cognisant of the details. But when the sensation is simple, as the colour of gold, or when the details of a complex sensation have been mastered, repetition has the effect of deepening the impression on the memory and nothing else.

An interesting discussion follows on "latent mental modifications," which the author transforms into a doctrine of "sub-consciousness," all which I think happy. Our consciousness at any moment can be distinguished into a centre or focus of attention, and a wider field, over which attention may range so as to shift the focus from one moment to another. Outside this field are presentations just out of consciousness, and ready to be brought in by the slightest accessions of relative intensity which may come over them, even though they are not in the field. These are "sub-conscious" states, and the designation is a useful addition to our nomenclature. We have never, I think, taken sufficient notice of the multitude of *recent* impressions, that are a power in our minds, from their readiness to appear in consciousness again and again, and which serve as guides to immediate action in our

numerous everyday requirements. While many of them serve the purposes of the hour and pass out of view for ever, some are on the way to become permanent possessions of the mind: all our fixed recollections must needs pass through this stage.

Next follows the thorny subject of the Law of Relativity, against which in its unqualified sense Mr. Ward advances various objections, some of them exceedingly cogent. That transition or difference is a commanding element of our consciousness is shown in numerous instances: passing from cold to heat, dark to light, down to up, weakness to power, fear to security, poverty to wealth, familiarity to surprise. The practical bearing of such cases is this: a present state affects us only with reference to a prior; the hand immersed in water at 60° may have a very different actual sensation according to its previous contact. Taken out of water at 40° the sensation will be warmth, out of 90° it will be coldness. So with light: going out of a bright light into a comparative shade we at first consider ourselves in total darkness; as the previous impression dies away, we begin to see objects more and more clearly. Animals living in an even temperature never have any sensation of heat or cold. The pressure of the air is unfelt by us until we change its degree. Mr. Ward remarks, what will not be denied, that the transition may be from a neutral temperature; but that makes no difference to the principle of change. The obstacle to the universality of the principle arises when we pass from difference of intensity to difference of *quality* in the same class of sensations, as sweet and bitter in taste, or red and blue in colour. Taking degrees of sweetness, a present sweet might seem different according to its preceding sensation, but it has a certain fixity of character under every possible antecedent; there is a limitation to the changes that relativity can induce. The previous state does not entirely make it, and yet operates to modify it. So with colours. Red has an absolute character, whether preceded by light, dark, blue, yellow. Nevertheless there is a certain slight variation of quality, according to the previous state, as might be shown in the judgment of the exact shade. Probably the permanent image of a given red is altered by a large experience of colours, with which it has to be brought into contrast from time to time, while logically its meaning is increased by the number of exclusions or negations corresponding to its affirmation. Mr. Ward further puts the case of sensations of different senses, where the relativity is still more remote, although doubt-

less exercising some power. To a being with only one sense, the experience of sensations of that sense would not be exactly the same as to us, who bring five senses into comparison.

On the whole, I am quite disposed to acquiesce in Mr. Ward's conclusion, that while there is no unalterably fixed unit in sensations, the mutual relations of impressions are not everything. I am concerned only to uphold certain positions that constantly meet us in practice, as well as in theory. Thus, (1) change of impression is essential to consciousness of any kind, and the intensity of the consciousness is determined by the amount or interval of the change,—a matter of the greatest moment in the question as to conscious intensity, for which the comprehensive title is now to be Attention. (2) We cannot assign the consciousness due to any present stimulus without taking account of the state of mind previous, innumerable fallacies of judgment being the consequence of overlooking this principle. Among important applications of the general law is this : a term or quality has no meaning till we have experienced some opposite to it, if only a change in degree. Our first parents did not at first know the meaning of obedience. The Australians, who never had a stimulant until the British occupation of their territory, did not know that they were temperate; those that now take the pledge understand it.

Under the head " Sensation and Movement " there is first the inquiry as to whether qualitative difference in sensation is not resolvable into variety in the arrangement and intensity of the aggregation of primitive homogeneous units. There is much to be said for this as an interesting speculation. Another point urged is that all possible sensations of colour, tone, temperature constitute groups of qualitative continua. This applies to cases where the changes are made by imperceptible gradations ; while the transitions that are in their nature abrupt, as the change from a smell to a taste, or from sweet to bitter, constitute a distinct class. The hypothetical explanation of the last is a higher degree of complexity.

As regards movements and motor presentations, the want of qualitative difference is notable. Mr. Ward divides them into two classes—motor presentations proper, involving feeling of muscular effort, and auxilio-motor, due to the straining of tendons, stretching of the skin, &c. He says nothing of the sensibility due to the afferent nerve-fibres in muscle, which are not there for nothing. Nor does he either affirm or deny the position that the motor currents are

accompanied with consciousness. Indeed his references to the physical side of mental facts seem somewhat capricious, his tendency, on the whole, being to discount it as an aid to psychical explanation.

"Perception" introduces us to various subtle disquisitions. First, as to its meaning. For one thing, it is an advance upon differentiation, by supposing integration at work. For another thing, it connects sensations with movements in the way of purposive action. The presentation-continuum would not be knowledge but for the intervention of controlling movements. This, however, is the problem of the will, and I must reserve it and take what belongs to perception in the more purely intellectual definition.

Three meanings emerge. First, there is recognition, by assimilation, or the more or less definite revival of the residua of former resembling presentations. This is the first employment of the recovery of the past by similarity. We begin with difference; repetition follows, and we assimilate without at first knowing it. "Assimilation involves retentiveness and differentiation, and prepares the way for re-presentation; but in itself there is no confronting the new with the old, no determination of likeness, and no subsequent classification." At this stage we are to beware of speaking of the reproduction of past sensations; there is as yet no individuality, and therefore no reproduction. There is simply an unconscious fusion of the repeated impressions, by which their character is advanced above the first stage of mere differentiation; which, however, is a step towards perception.

The second meaning is something much higher. Perception is the localisation of impressions, the referring of them to a part of the surface of the body or to some foreign body beyond. This is the problem of the origin of our notion of Space, and on that problem we must here enter, taking due care to separate space in the abstract from concrete spatial experience,—what Hamilton called the empirical notion of space, which the most thorough-going *à priori* philosopher must allow to be a matter for resolution or analysis.

Empirical psychologists, by starting with the simultaneous plurality of sensations, first in touch, and afterwards in sight, and by a copious employment of the resources of movement and of muscular resistance and freedom, have hitherto supposed that they account for all that there is in our notion of space or extension. Mr. Ward says, No. If we had only these to depend upon, we should go down to our graves with our intellects spaceless. What then is lacking? These two things:—

(1) The varying sense of the massiveness of sensations, spoken of by Mr. Ward under the new coinage "Extensity". An increase in the mass affects us differently from an increase in the intensity. Putting the finger alone into hot water and then the whole hand increases the mass of sensibility, and we are aware of the increase ; and in this difference we have the beginning, or basis of operations, of the notion of space.

(2) The existence of Local Signs in different parts of the body, as suggested by Lotze, and elaborated by Wundt. That is to say, underneath the apparent identity of touches in different parts of the skin there are latent differences that operate in making us feel that repetition or plurality cannot be on the same spot.

A word upon each of these hypotheses. The importance of massiveness, as going along with simultaneous plurality, may be readily admitted. A single contact on the tip of the finger proves nothing, a double contact essentially requires a change of spot, and a multiplicity of contacts is compatible only with that expansion of surface that is otherwise revealed by greater massiveness, the consequence of a wider contact. But I am inclined to think that the massiveness operates as a basis of plurality, and somehow in concurrence with that, and not from any suggestiveness in itself.

The existence of distinguishable signs all over the body, even without conscious difference, has always seemed to me to be something of a paradox, notwithstanding their acceptance by able psychologists. There is a remarkable sameness of quality in our tactile feelings on every part of the skin ; so much so that we scarcely ever in practice remark any difference except in their locality. When we are put to it, we must admit that there are anatomical grounds for variety, as Mr. Ward points out : the difference of the underlying parts—in one place bone, in another tendon, in a third fatty tissue—should make a qualitative difference of sensation ; and by attending to such differences we should know whether a contact is on a hard part or a soft, on the upper surface of the foot or the heel. But not to speak of the substantial sameness of the two sides of the body, there are large portions of the skin with identical subjacent parts ; and our sense of local differences would appear to be as good where the identity is most complete as where it is most wanting.

Although, in this great question, it is right to begin with Touch, we must end with Sight ; for it is visible extension that is our standing mental representation of space. Now, take the starry sky, where one star differs from another in

local colouring. Let us suppose that the heavens were made up of stars without such difference: would anyone in that case contend that our visible conception of space must prove abortive?

Mr. Ward handles with great success the play of movements in developing our notion of space. In all this he is on secure ground, and I cannot help thinking that, without either of his two subtleties of "extensity" and local signs, the capabilities of movement, working upon simultaneous plurality, would carry him to his journey's end.

The third meaning of Perception is a great meaning—the Intuition of Reality or Actuality. Here he adverts very properly to our sense of resistance in giving us 'body,' and the fixity of order of some impressions, as connected with external reality; while he blames empirical psychologists for not considering that the point of fixed order is essential. He puts it to those that make so much of the law of similarity, why it is that this does not override contiguity, and make the white of snow lead to a classing of whites, instead of a grouping of the associated qualities of coldness and powdery softness. Then comes the question of unity in the midst of change, and that leads to another—continuity in time, or *persistence*. For this the first datum is our body, which we never part with, whereby we are prepared for regarding the re-appearance of other bodies, after absence, as the continuance of the same, and not the appearance of others resembling. And finally, the quality of physical solidity, affecting our sense of resistance, is the groundwork of all substantiality, continuance and invariability.

This concludes Perception. Next comes "Imagination or Ideation," as rising above perception. The handling of this large subject is a good test of psychological ability. Starting from Hume's very imperfect account of the distinction between impressions and images, our author first warns us that there are no ideas answering to simple or isolated impressions, as redness by itself; what are revived in memory and imagination are *percepts*, not unlocalised sensations and movements. Our idea of red is some red thing originally a percept. Ideas are the material of association proper. There is a grouping of distinct elements in the percept: this Mr. Ward prefers to call "complication," although of course he would not deny that it involves the retentive power of the mind.

The criticism of the weak points of Hume's distinction between presentations and images as consisting in superior force and liveliness is just and well-put. However faint a primary impression may be it has a steadiness and fixity all

its own, besides the localisation accompanying every percept, whereby each excludes every other for the time. Here, however, arises a nice question. We can overlay a percept with an idea of a contradictory nature. We can look at a blue starry sky and imagine a gorgeous sunset, two things incompatible in actual perception. This shows, Mr. Ward thinks, that images float in a level of their own, quite above the presentation-continuum, and to this independent flux he would give the name of a "representation- or memory-continuum," which he justifies later on.

So much for the difference of presentation and image; now for the connexion of the two. It is obvious that the presentation is the source of the image, and we are justified in assuming a transition from the one to the other. There is an intermediate stage, called by Fechner the memory-after-image, being the trace left by an impression after it has ceased. This may easily be distinguished from morbid persistence in a sensation itself, which has its own characters and contributes nothing to the formation of images or ideas.

The evolving of the full-fledged image or idea from the memory-image is a stiff business, and not without uncertainties. The memory-image has already lost the essential characters of the impression, and especially the stubborn resistance to superposition of impressions; for several may be in the field of consciousness together. It has made its mark as a thing persisting apart from its original presentation, and what we need farther is a confirmation and deepening of this by subsequent renewals. What happens, then, on a second presentation, which also leaves its memory-image to fuse with the first? Here Mr. Ward speaks in metaphors that are not quite clear. The revival of the image is not another birth, whatever that may mean. There is, in the case of an identical image, assimilation or recognition, which precludes individual distinctness. If the second impression occurred in identical surroundings there would be no sense of distinctness; when the surroundings are changed there is sense of distinctness; nevertheless, repetition brings confirmation, being the case of similarity working in diversity. On the whole I call this an extremely laboured attempt to bring out the simple result of confirmation of images by repeated occurrence, there being more or less of identity in their accompaniments.

The author is now brought face to face with "Mental Association," although his treatment is avowedly cursory. He appears to join the small company that would reduce the two principles of Contiguity and Similarity to one.

That is to say, there is such a thing as revival by similarity, but this is not a process of association. If he means that 'association' is not an apt word for the suggestion of similars, I quite agree with him. That there is nothing to be said, however, as to the workings of Similarity as such, I could not admit without a degree of self-stultification that I am not yet equal to. Meantime, I must endeavour to follow his account of his one recognised law of association—Contiguity. He re-introduces his memory-continuum to get out of the enormous difficulty of conceiving presentations originally distinct and isolated becoming eventually linked together. For contiguity he would substitute "continuity," and inquire into the process of integration, in all which I can see only a change of terms for the same inevitable fact: *a*, *b*, *c*, *d*, began by being isolated presentations, they end by being linked or connected into a series.

Still there are considerations of some subtlety in the matter. Take, first, succession. Why does not this association work backwards? This, I should say, is really an ultimate fact: the order of reproduction is the order of original occurrence, or the order in which they were originally attended to. We could learn the alphabet backward, but only by repeating it backwards as often as forwards. Next as to the simultaneous. This can be resolved into succession, seeing that to take in a complicated subject we must cross and recross the field of view until the parts cohere by being made to succeed each other in turn.

So far we are supposing the memory of one continuous and homogeneous scene—as a fixed row of houses, a strain of music, or a verbal sequence. When, to use Mr. Ward's language, we have portions of different continua—*e.g.*, sights and sounds—or non-adjacent parts of the same, the integration or association makes a new continuum or train, in which the two remote things are adjacent parts; in fact, are brought together from a distance, and rendered continuous. Here the movements of attention are particularly involved; to unite a house with a name we must attend mentally first to the one, and then to the other; and the influences that put attention in motion are then all-important. Interest is the main stimulus, but something may be done at first by mere intensity; the roar of a cannon and the flash at its mouth are doubtless associated by the mere intensity of the primary impressions. But the movements of attention, forming the connexion between one representation and another in the memory-train, are important as constituting "temporal signs," by which are meant marks of the order of

occurrence of images. They correspond to local signs in extended objects. We shall hear more of them afterwards.

Such being the "Memory-continuum," the next step is to form out of it an ideational continuum, or rather many such. The meaning is that the literality of the memory-train is broken in upon, except in idiots, by the collision of different trains, during which some parts are strengthened and others left to die out for want of the nourishment that renewal gives. Through this joint effect of obliviscence and reduplication we are provided with a flow (or many flows) of ideas distinct from the memory-train, and more or less suited for our intellectual and volitional manipulation.

The author then touches upon the interference due to conflict of presentations and mental currents; objecting to the title 'obstructive association,' but admitting the fact. He next considers the moot point of drawing the line between Memory and Imagination, and is I think correct in assigning as the two characteristics of memory proper (1) concreteness or circumstantiality, and (2) localisation in the past, the last being the more essential. The representation of one's past self as agent or patient is also a concurring circumstance, but not essential.

From memory he proceeds to Expectation, as the natural sequel. After a series of events has been once experienced, we instinctively anticipate its recurrence, provided the memory-train is intact. At this point, however, the author widens the inquiry into an examination of the distinction of present, past and future. The present is the real or actual, and is determined by our primary presentations, as already seen. But we do not know the present as present until it is put side by side with both memories and expectations. An event expected has an interest altogether its own, and puts us into a more active attitude in consequence. The words 'expect,' 'await,' 'anticipate,' all point to an attitude of mind, wholly different from the attitude towards present or past. To know a present, as present, we must have, in the consciousness along with it, both memories and expectations, which are of course in the form of ideas or representations. The difference between memory and expectation is, as already said, a difference of attitude and interest: both are distinguishable from the present as being ideal. With a fixed series of events, ABCDE, we know where we are by one being in full actuality, as C, while AB and DE are in ideality; and we know that AB are behind, when in moving on to D, the ideas of AB are fading, and the idea of E rising in intensity, while also engaging the expectation-attitude.

But how do we come by our knowledge of Succession and Duration, in all the fulness of their completed meaning? Past, present and future, as above figured, are in the consciousness simultaneously, and are distinguished only as real and ideal. Succession is, in fact, a mode of interpreting or stating a peculiar mixture of the co-existent: in the co-existent is a peculiar experience that we may call time-perspective; but even that is not first conceived as succession. For the development of this idea we must fall back on the so-called temporal signs, that is, the residual traces of the *movements of attention* in passing from one event to another in the series of presentations and their re-presentations. These signs are aided by the progressive variation in both intensity and distinctness as we pass along the perspective one way or the other. The variations by themselves would not suffice, as we might confound the faintness arising from what is remote with the faintness of a near but feeble original. The temporal signs, however, save us from this mistake.

As to our subjective estimate of Duration, there are various elements to be considered. When pleasure or pain are connected with occurrences, the estimate of duration is most delusive, and Mr. Ward enters minutely into the psychology of this effect, belonging as it does to the general theory of pleasure and pain; and I believe his explanation is both ingenious and just. The estimate of duration in things that are indifferent has been subjected to experiment with more or less definite results. It is doubtless a result of education to take the proper measure of the time occupied by an event; and our education has for its basis the standards provided by our artificial time-measures.

Equally subtle is the author's treatment of the question whether our notion of time remains discrete or becomes wholly continuous. The mind begins by hops or leaps, but at last seems to acquire the feeling or idea of continuity, with evanescent breaks, like the wheel of Savart, when its speed is increased to the pace of fusion of the separate beats.

In all that regards the ideas and feelings of succession and duration, the German writers have been more assiduous students than the English, and Mr. Ward has added his own modifications to the German results.

Before going on to the higher developments of intelligence, the author pauses to review the emotional and active constituents of mind in their more elementary phases. And first of "Feeling," that is, Pleasure and Pain.

Starting from the broad generalisation—as an account of

psychical or mental life—that receptive states lead through feeling to active states, and that presentations yielding neither pleasure nor pain meet with no responsive action, we are led to inquire whether the contrast of pleasure and pain has any corresponding contrast in the causes of feeling, on the one hand, and in the manifestations or effects on the other.

To begin with the causes. In the presentations themselves, or outward agencies of pleasure and pain respectively, we find no common characters; the peculiarities must therefore be in relation to the conscious subject. Now one prominent circumstance in relation is, that pleasure furthers life, and pain impedes or destroys it: the so-called law of Self-conservation. Mr. Ward admits that the law is conformable to facts, but rejects it as being too teleological for application. I doubt if he is right here. The teleology need not be introduced into the inquiry at all, while the law possesses the very condition that he insists on, namely, to assign a mark present in all pleasurable presentations and wanting in all painful. If self-conservation stops short of this condition, it is because no single principle will explain the whole of the phenomena. Indeed, any different principle must be continually liable to qualification according to the general state of vitality of the system; and, in point of fact, Mr. Ward is unable to exclude it in the exemplification of his own theory.

With a view to the inquiry, he gives a five-fold classification of Feelings. The first comprises the simple sensations and movements; the former more particularly. In these sensations, the pleasurable or painful effect varies with intensity, quality, frequency and duration. The leading fact is, however, intensity, into which quality may probably be resolved. With regard to movements, it is evident that pleasure depends solely upon intensity; a certain amount of exertion being always agreeable, and excess disagreeable. Of some of our sensations, as light and sound, the same can be said: they are always agreeable up to a certain point of intensity. When we pass to taste and smell, we encounter such cases as sweet and bitter tastes, which are pleasant or painful in all degrees. Mr. Ward would resolve these into hereditary associations with intensity. A bitter sensation may be the trace of organic pains originally accompanying a too violent stimulation of the taste, and a sweet the opposite. The hypothesis is admissible enough, but one would think it should have been preceded by a discussion of the organic pains and pleasures themselves. Instead of accepting as a

simple and ultimate fact the principle of intensity, Mr. Ward thinks it needful to explain the limitations of the pleasurable degree by two considerations. The one is that attention shall be forthcoming adequate to the intensity. I doubt if this can be called a better explanation than merely saying that the forces (nervous and other) are limited and liable to exhaustion, whence pain follows, which is the law of self-conservation over again. The other explanatory circumstance is that a pleasurable quality is one that enlarges the field of consciousness; in other words, connects itself with exuberant spirits, buoyancy and animation: which is to fall back again on the organic state, as conditioned by physical vigour.

The dependence of pleasure on duration and frequency is more easy to account for.

The second class of feelings comprises the combinations of simple sensations and movements, or the lower æsthetic feelings of harmony and discord. On these the author gives probably everything that can be advanced in our present knowledge.

The third class carries us into the region of intellect, and comprises the free or obstructed flow of ideas. These feelings are about the easiest of any to explain; yet in them too we cannot dispense with a reference to the economy of vital power. The fourth class takes in the higher æsthetic feelings, such as unity in variety, where the principle of economy is largely involved; likewise the wide-ranging associations of agreeable or disagreeable effects. There is no serious difficulty to surmount in this region.

The author's fifth and last class he terms feelings related to self, or the egoistic and altruistic feelings. These are the pleasures of self-complacency and self-satisfaction, and the pains of disappointment and failure. Instead of plunging into these complications, which need a much more elaborate handling, I could have wished him to discuss such leading emotions as fear, love, anger; these being obviously more elementary than what he dwells upon.

The general doctrine that there is pleasure according as a maximum of attention is effectively exercised, is ingeniously applied to the seemingly exceptional case of sleepiness. Here the field of consciousness is contracting, it is true, but then attention or activity is contracting still more, while the smallest attempt to arouse it brings on the acute pain of conflict. A much simpler explanation could be plausibly maintained.

The author faces another great and standing controversy

regarding pleasure, the contrast of the higher and the lower pleasures. He solves this psychologically, by urging that to advance to the level of life wherein greater pleasure on the whole is attainable, is a real rise from a lower to a higher state. This of course will not satisfy the parties to the ethical controversy, but it is not the less just from the point of view of pure psychology. The phrase for the difference is not ' dignity,' but economy or efficiency.

Great as are the subtleties connected with Feeling, greater remain in the nature and growth of the Will treated under the head of " Emotional and Conative Action ". I must here take into account the earlier treatment of Motor Presentations (p. 42), where the linking of action with feeling is considered. For an absolute commencement of the bond that unites feeling with purposive movements, we must set aside both reflex action and sensori-motor action, as being results of some prior arrangements more typical of the will itself. The real starting-point, our author thinks, is the wave of emotional diffusion ; the spontaneity of isolated movements he rejects as having no sufficient evidence, and as making movement precede feeling instead of following it, which he considers an absurdity. Without stopping to debate these positions, I must look at the author's attempt to define the primary emotional wave. He is aware that the diffusion arising under our developed emotions, such as anger, includes Darwin's ' serviceable associated habits,' and therefore grew out of will, instead of preceding it ; thus the combative attitude is a clear volitional after-growth. Darwin's third principle of emotional expression is the nearest approach to a primitive outburst—namely, certain actions that are the direct result of the constitution of the nervous system, under which he would include the movements expressive of joy and grief, which in some form or other are the simplest of conceivable states of emotion. Proceeding on this basis, Mr. Ward enumerates, as primitive movements of joy, dancing, clapping the hands and meaningless laughter ; such actions not only belong to the pleasurable wave, but increase the pleasure. This is something. Again, on the side of pain, there is a variety of contorted and violent movements, in themselves painful, but operating to diminish the original pain more than they add to it, being, on the whole, soothing and salutary. But now, as regards our volitional progress, there is this great difference between the two opposite modes of feeling. The movements under pleasure are mere exuberance, or the overflow of good spirits, and are, so to speak, playful and purposeless. Pain, on the

contrary, forces on our attempts to escape the causes, and is the most urgent schoolmaster in our voluntary education. The author endeavours to minimise the counter tendency of pleasure to prompt to its own continuance and increase. That stage in the gratification of appetite, when pain has ceased and pleasure is pursued up to point of satiety, he would regard as a later growth or consequence of the primary urgency of pain. This refinement, however, may be carried too far. Granting that the removal of pain must always possess the highest degree of urgency, yet there are numerous cases where, starting from a state of pure neutrality, we enter upon a taste of positive pleasure, and follow it up till it ceases to become pleasure. But for the discipline of pains in the distance, which accompany all considerable pleasures, I am disposed to believe that the pursuit of pleasure, as such, would be no less genuine and unmistakable than the avoidance and removal of pain.

Out of the diffusive movements of feeling, and the fundamental law that connects the relief of pain and the increase of pleasure with accidentally coinciding movements, the growth of the will has to be explained. The difficulties of bringing about these happy chance-coincidences are formidable, and the time demanded is correspondingly great. Mr. Ward thinks that natural selection, and the survival of the fittest, would come in to accelerate the process. Be this as it may, the subjective selection must follow its course by bringing about an association between lucky movements and the state of feeling that they favour.

After Will comes Desire, with its various problems, which are fairly grappled with. What makes desire first to arise, what constitutes its urgency, and wherein lies the difference between represented pleasures that give their own satisfaction and those that stimulate pursuit for the reality—all these matters are soluble by manipulating the various elements concerned: the power of the representation; the activities of the moment, and the bearing of these on the end; the operation of habit in weakening the sense of pleasure, and increasing the tendencies to action. On the whole, the author contends that the activity involved in desire is a question of pain in some sort, and not the following of pleasure.

The higher forms of "Intellection" are now entered upon. The difficult question of controlled and regulated thinking is first to be considered. Then comes the vast instrumentality of Language, which Mr. Ward illustrates with great success. No less good is the discussion of general ideas, hitherto

given too exclusively under the alternatives of Nominalism and Realism. I have not space to advert to what is characteristic in this portion, nor to follow the author's examination of the developed categories of Unity, Difference, Identity, Likeness, which he thinks have been hitherto derived in a too easy-going and slovenly fashion. Causality he also discusses, and under it Belief. A section on "Presentation of Self, Self-consciousness and Conduct" closes the treatise.

I will add nothing to the running criticism already bestowed, in the course of setting forth the chief positions, except to advert in a few words to the peculiar stress everywhere laid on Attention. The immense compass assigned to the word is somewhat discomposing. At a very early stage we are told that Attention is to cover what is commonly meant by *inattention*. When Daniel O'Connell was at the height of his repeal-agitation, he was warned by Sydney Smith that he might have to reason the point with that armed Aristotle, the Duke of Wellington. So we can imagine the response to this view of Attention by the commander-in-chief of the British Army, whose central word of discipline is thus tampered with. I make the fullest allowance for the need of a general word to express the reaction of the Subject upon presentations, &c., yet I doubt if the sum total of the influences that intensify impressions and promote their retention should be comprised under the one word "Attention". A still more general designation, such as 'mental *tension*' or 'conscious *intensity*,' would be desirable; while 'attention' could be reserved for special modes of intensification.

The operation of exercising control over the mental trains presents one of the most difficult of our psychological analyses. It has been discussed with very great acumen by Mr. Bradley in the last number of MIND; and I think his conclusions on the whole remarkably just. On the question, whether, in our voluntary control of the thoughts, there is always a muscular intervention (in an ideal transmutation), Mr. Bradley unintentionally misrepresents my published views on the point (see in particular, *The Emotions and the Will*, 3rd edit., p. 372). I do not regard muscular intervention as operative in all cases, and have expressly referred to the instance of attending to one instrument in an orchestra as demanding some other medium of selection. I will not here endeavour to classify all the forms of the intensifying influence, but will advert to one real distinction lying at the very root of our voluntary power. I mean the difference

between immediate and mediate interest; between the pleasure (or relief from pain) involved in the act itself, and the prospective pleasure or relief operating as a motive. The first is the voluntary impulse in its purest, most primitive and perennial aspect; to hug a pleasant idea is as purely instinctive and untaught as anything can be; the higher apparatus of the will—as expressed by resolution, deliberation, purpose—has no part in it. Now, we may undoubtedly apply the word 'attention' to this instinctive mode; but the process is more usually described by such words as 'attraction,' 'arrest,' 'fascination,' 'irresistible charm,' and so forth. It is in the second class of impulses, where a prospective motive is at work, that the word attention is most characteristically employed: the case of a thing that has no charms in itself, and where we are induced to dwell upon it by some extraneous or remote consideration. Such is 'Attention' in the school and in the army. As to the use that Mr. Ward makes of Attention in his theory of pleasure and pain, a much more lengthened consideration would be necessary than I can give to it here.

There is another point to consider before we bring forward a change in scientific nomenclature. We ought first to show that it is wanted, and next, take the measure of our own influence or persuasive power for getting it adopted. A multitude of conflicting renderings of well-known facts is an evil, although, it may be, a necessary evil. As regards the formidable enlargement of the sphere of meaning to be given to the word Attention, we certainly desiderate more reasons for the change than, as far as I am aware, have been as yet supplied.

Nevertheless, to speak of the paper as a whole, the author's handling of the topics he has overtaken will reward the most careful study. There is force in everything that he advances; and, for my own part, I have been always instructed, and often convinced, by the arguments in favour of his positions, whether new or old. The form of the treatise, as it now stands in the *Encyclopædia*, has obvious disadvantages. When the matters excluded by the narrow limits are filled in, when the illustration of the whole is duly expanded, and when, finally, the exposition of subtleties is transferred from *brevier* to *pica*, Mr. Ward will have produced a work entitled to a place among the masterpieces of the philosophy of the human mind.

II.—ILLUSORY PSYCHOLOGY.

By Shadworth H. Hodgson.

English Psychology and English Philosophy are both very good things, so long as they cleave to experience as their only basis and their only test. The endeavour to do so is usually and justly claimed as the characteristic mark of English thought; and whenever a signal success in it is obtained, which by no means follows as a matter of course, then it is that our psychologists and philosophers always feel the most legitimate satisfaction.

If ever there was a time at which it was necessary to hold fast this endeavour of cleaving to experience alone, under the pressure of seductive phrases, and the familiar use of ambiguous terms which cover tacit but unwarranted assumptions, that time is the present, a time of renewed vigour indeed, but nevertheless chaotic, and fermenting with the elements of speculative systems as yet unorganised or at any rate unrecognised. Whatever speculations are put forward at such a period by competent writers, whether in psychology or in philosophy, as being based on experience alone, and belonging to the English experiential line of thought, deserve the most respectful attention and scrutiny. Even results which are *prima facie* paradoxical should not on that account be passed over as unimportant. If for instance we are told by a competent writer, that Absolute Idealism is not only a truth of experience but one attained directly by the method of experiential psychology, we should not allow our astonishment to prevent our examining the arguments, by virtue of which English psychology attains the results of German transcendentalism without quitting the ground of experience. Experience is notoriously fruitful of surprises. And when the post of honour in two successive numbers of Mind has been conceded to the exponent of the result in question, it is high time that some one should endeavour, however humbly, to test its validity.

I refer to Mr. J. Dewey's articles, "The Psychological Standpoint" in Mind 41, and "Psychology as Philosophic Method" in Mind 42. I will deal with these very briefly, taking them in order as they stand, but without recapitulating their whole contents, which, in the case of articles so recent, would be unnecessary, seeing that they will doubtless

be fresh in the memory of all readers of this Journal; and first the article in MIND 41, "The Psychological Standpoint".

I.

We are told at the outset that "the nature of all objects of philosophical inquiry is to be fixed by finding out what experience says about them" (p. 2). Nothing can be more true. But then immediately follows, "And psychology is the scientific and systematic account of this experience". That I for one deny. But assuming it for the present *argumenti gratiâ*, let us see how the inquiry proceeds. The result reached or to be reached by this method is named by the writer himself Absolute Idealism (p. 12). And the conception, which is supposed to enable us to reach that conclusion from the broad basis of experience, is the conception or truly conceived fact of a real identity between the individual and the universal consciousness, or the individual and the universal self (pp. 10, 17, 18, 19).

In the first place I remark that it is inconsistent with the claim of standing on experience alone to speak of "the postulate of an universal consciousness" (p. 15). If the existence of an universal consciousness is an indisputable fact of experience, it is a fact and not a postulate. If it is disputable, it can at most be an hypothesis, and then the grounds for assuming it must be alleged. With Mr. Dewey it is (pp. 18, 19) a presupposition essential to English philosophy and English psychology; which circumstance is alone sufficient to destroy the claim which he makes for them of appealing to experience alone.

That this really is Mr. Dewey's conception is plain from the first sentences of the following passage, in the latter part of which he develops his idea of the required identity between the individual and the universal consciousness:

"English philosophy can assume its rightful position only when it has become fully aware of its own presuppositions; only when it has become conscious of that which constitutes its essential characteristic. It must see that the psychological standpoint is necessarily an universal standpoint and consciousness necessarily the only absolute, before it can go on to develop the nature of consciousness and experience. It must see that the individual consciousness, the consciousness which is but 'transition,' but a process of becoming, which, in its primary aspect, has to be defined by way of 'contrast,' which is but a 'part' of conscious experience, nevertheless is, when viewed in its finality, in a perfectly concrete way, the universal consciousness, the consciousness which has never become and which *is* the totality; and that it is only because the individual consciousness is, in its ultimate reality, the universal consciousness that it affords any basis whatever for philosophy" (p. 18).

I confess I am utterly at a loss to see either how Mr.

Dewey justifies on experiential grounds the existence of an universal consciousness, or in what he imagines the relation between the individual consciousness and the universal one to consist. He tells us at p. 17 "that consciousness is the unity of the individual and the universal," and also that "since consciousness does show the origin of individual and universal consciousness *within itself*, consciousness is therefore both universal and individual". But he prudently postpones the question of *how* this is to a future opportunity. The obvious reason here is, that he does not know. For if he had known this, he could not possibly have given the account of the relation between them which he has given, meagre and vague as that account is; nor could he possibly have maintained that the existence of an universal consciousness is a matter of fact bound up with conscious experience. He falls into the common and perhaps even favourite fallacy of first generalising his own consciousness and making an *ens logicum* of it, and then reconverting it into a really existent consciousness with the attribute of omniscience. He imagines his own general conception of consciousness realised in an individual case adequate to the generality of the conception, that is, an indefinitely great consciousness, which he calls the universal consciousness or self.

It will fairly be expected that I should show how this logical and generalising process takes place without really transcending the individual consciousness generalised. This will not be difficult. The process is extremely simple, though it cannot be said to be commonly understood. Conscious experience comes to an individual, any individual, whom we will call A, in a varied stream of states and changes, sensations, emotions, thoughts, feelings, desires, volitions, and so on, out of which the world of every day or ordinary experience, as it is called, is gradually built up, and which embraces *everything*, without exception, of which the individual can think, or to which he can even so much as advert in thought. Prior to this stream, or beyond this stream, there is nothing, no possibility of assuming either its individuality or its universality, or distinguishing these two conceptions from each other, or even of distinguishing Subject from Object. The universality of the stream in *this* sense, meaning its property of being all-embracing, Mr. Dewey has well seen and insisted on.

But secondly, note this further circumstance. The stream of consciousness as it comes to A is, as a matter of fact, a fact which we learn from itself on examination of it, an individualised stream, and occurs in *perceptual* order. Exactly

as it occurs to A it occurs to no one else ; exactly as it occurs to A once it never occurs to A twice. It is an absolutely unique stream of events, or of states and changes, in A's consciousness, constituting A's experience. It is experience as given, the *data* out of which what is called ordinary experience is built up. It is an unique stream, and it is a stream of *data* as *immediately perceived*.

Thirdly, advert to another point, and here we reach the turning-point of the explanation. A is not merely a perceiving, but also a thinking creature. *Pari passu*, or rather throughout interwoven, with this stream of percepts in A's experience, and as part of the condition enabling its transformation into the experience of ordinary life, that is, of seeing and dealing with men and things, there goes on a comparing, contrasting, classifying process among, between, with, or upon the data. Every act of attention to a percept is the commencement of a generalisation, a commencement which needs only the occurrence of similar percepts, or the knowledge that such are possible, to become *ipso facto* a generalisation of the original percept, which then assumes a representative, that is, a general character. Attention first abstracts, or picks it out, from its original context ; involuntary experience does the rest ; and a general thought, a conception of the re-active mind made pregnant by perception (the phrase *concipere animo* being analogous to the phrase *concipere utero*), a concept inclusive of possible future experience, is the result. Generalisation supervenes unconsciously and completes unawares the conscious and volitional act of attention, with which thought begins.

But now suppose, in the first place, that this thought is directed, not to build up a world of men and things out of the data, but to the contemplation of the data themselves, of experience simply as experience. How are the results embodied, and in what shape do they appear ? They are embodied, not indeed in natural objects, but still always in general conceptions, expressed by general terms, and are no longer either pure percepts or in a purely perceptual order. They are grouped, classified, and sub-classified, but appear always henceforward in general, not individual shape. There is loss as well as gain in this. No form of conceptual thought or of language is ever adequate to represent an individual percept or complex of percepts ; they are represented and expressed, more or less nearly, by limiting one general term by another, as for instance a particular shade of blue is *perceived* by consciousness *immediately* as that particular shade, but is *thought* by consciousness *mediately* as

blue generally, limited and defined by *light* or by *dark*, that is, by means of conscious comparison with other perceptions.

And what is true of the data of perception in the stream of consciousness is true also of the things of nature, the objects of ordinary experience. The properties or attributes of a natural object, a piece of wood for instance, are combined with one another in an intimate union which is *perceivable* or *imaginable ;* the hardness, the dryness, the moisture, the woody fibre, the pores, the grain, the colour markings and so on, are conjoined one with another in a way quite different from that which they take when enumerated and superposed one upon another in thought, as we have now been doing in *conceiving* and describing them. The attributes of a natural object as a *percept* have quite a different order and arrangement from what they have in the same object as a *concept.* Thus the order of real existence also is an order of perception and imagination, just as much as the stream of data is ; and this order is in both cases converted by conception or thought into a pile of generalisations artificially combined for purposes of investigation. In other words, the perceptual order of nature and of experience is modified and moulded by thought into a conceptual order and arrangement. We cannot think save by general determinations of perception, nor speak save by general words expressing them. It is thinking which first introduces these into the stream of consciousness, which draws the first distinction between general and individual, and which thereby enables us to see the fact that perception is always of the latter, though without always knowing it to be so. Even the term *individual* is a general term. When we say *this* individual, that is merely a case of *digito monstrare*, as if in utter desperation of *expressing* him as an individual reality.

Lastly be it noted, that this conceptualising or generalising process is a generalisation of consciousness, of conscious experience, itself. As of the parts, so also of the whole. No single general term, no complex of general terms mutually limiting and modifying each other, ever attains adequacy to the individual thing, person, feeling, or state of consciousness, to which it is applied. There is always a *margin*, so to speak, in the conceptual or general term, which does *not* fit close to the intended individual, and which therefore may possibly apply as well to another individual, if any there be, similar to the former. We naturally and necessarily generalise our own consciousness in actual experience, and we never transcend our own individual consciousness, I mean of course the stream of data which is ours alone, in doing so. This would be an impossibility. That each of us is an individual con-

sciousness is not the consequence of any assumption which we have power to make or abstain from making. It is done for us by nature, and we find it out when we reflect on our consciousness philosophically.

Mr. Dewey seems to think that, by refraining at the outset of psychology from assuming that we are individuals, the possibility is opened of our being the universal consciousness (p. 3 at top). He seems also to think that, because consciousness is *one* in point of *kind*, therefore the individual and the universal consciousness cannot be *two* in point of *number* (p. 17 at top)—a short cut indeed to the Deification of the individual. Now there are many assumptions which we have to use care, often anxious care, and take much trouble and acquire painful instruction in order to avoid. But our own individuality is not one of them. We cannot transcend our own consciousness, however much we may generalise it. Generalising it alone, therefore, can never land us in the belief, still less in the knowledge, of an universal consciousness different in any respect from our own. Its generalisation is merely another way, the logical or conceptual way, of representing its individuality, of what in actual experience is perceptual.

Our belief or our knowledge of the existence of other conscious beings besides ourselves is always drawn from something else over and above the mere generalisation. We always have positive grounds, real or fallacious, for filling up the margin, above spoken of, with similar instances. The general term *man*, for instance, has a wide margin which admits of many varieties, and many real men, being included under the term. This whole group of real men I would call its logical *comprehension*, though I believe there is not complete agreement among logicians as to the nomenclature. There are positive grounds, all drawn ultimately from A's own consciousness, for A's belief in the existence of real men besides himself. But what are A's grounds for belief in the existence of an universal conscious being other than A himself? This is what we would gladly learn from Mr. Dewey; but Mr. Dewey contents himself with replying that it follows from the "presupposition of English Psychology". It were to be wished that some other basis than a "presupposition of English Psychology" should be found for Mr. Dewey's conclusion, that "the individual self" "has its origin in processes which exist for the universal self, and that therefore the universal self never has become" (p. 19); or, as we find it stated at another place, after replying to the theory of Reasoned Realism, "the solution is that the con-

sciousness to which all existence is relative is not our consciousness, and that our consciousness is itself relative to consciousness in general" (p. 10).

I must not omit to remark, that Mr. Dewey's own statements on this point are in contradiction with each other; that according to him the individual consciousness now is, and now is not, identical with the universal. But as he is quite aware of this (p. 16), yet without considering it a conclusive objection, to insist upon it would be fruitless. To assume provisionally that two differently named things are different is no hindrance to proving afterwards that in some essential respects they are identical. But to begin by assuming them identical, in hopes of showing the *how* afterwards (p. 17), is fatal to proving *that* they are so, because, under cover of assuming their identity only, it tacitly assumes what it has to prove, the existence of both as realities. Not even the august companionship of German transcendentalism could redeem such reasoning from logical perdition.

It seems to have been the general term *consciousness* which has played havoc with Mr. Dewey's ideas. When he uses such phrases as a consciousness which is not ours, and to which all existence is relative, or speaks of an universal self or consciousness, or of an individual self or consciousness, he plainly implies more than consciousness in general or consciousness simply. He implies some conscious beings or agents in whom consciousness is seated. Consciousness in general and consciousness simply are terms which imply nothing at all with regard to the seat, or agent, or agency, connected with the consciousness. The consciousness is taken, when these terms are used alone, as a mere *content*, the content of the stream of consciousness as data of experience. All further distinctions and conceptions must be derived from this stream of data, from consciousness in general or consciousness simply. As Mr. Dewey well puts it, they must be found "*within consciousness*" (p. 17), or again, in developing what he well calls "the nature of consciousness" (p. 14).

But to abstract from the seat, or agent, or agency, of consciousness, as we do by using the terms consciousness simply or consciousness in general, is not to assert that they have no seat, agent, or agency, connected with them; nor yet is it to affirm that the seat, agent, or agency, is individual; nor yet again that it is universal; all this must come afterwards, that is, by examination of the nature or content of consciousness. But Mr. Dewey tells us, in a passage already quoted, that English Philosophy must see that "conscious-

ness is necessarily the only absolute before it can go on to develop the nature of consciousness and of experience. It must see that the individual consciousness . . . . is the universal consciousness, the consciousness which has never become, and which *is* the totality" (p. 18). This put briefly is neither more nor less than identifying man as a conscious being with God as a conscious being, on the sole ground that man's consciousness contains all the evidence he ever has for knowing anything at all. It is true that man partakes of consciousness in general, but it is false to identify consciousness in general with universal consciousness.

Nor can the view which I am now maintaining be fairly characterised as Subjective Idealism. This name would be applicable to it only in case it could be shown (as it never can) to involve and inevitably carry with it the further doctrine, that the *real existence* of the things known in any individual's consciousness depends on the existence of his consciousness, as confessedly their having a *meaning for him* depends upon it. The real existence of anything depends upon its having real conditions, and these form a system and a series of real existents and real events stretching back indefinitely, perhaps infinitely, into the past. But nothing warrants the inference that, because the individual can know of these conditions only through his present consciousness, he must therefore either have existed as a conscious being through all that period, or must now be creating and endowing them with past reality in his imagination. Still less, if possible, is the inference warranted, that a consciousness *not* the individual's was a necessary part of those real conditions. I mean that, if it be so, as it well may, the fact must be proved or rendered probable by some positive and independent evidence. It does not follow simply from the fact that existence is *knowable*, or has a *meaning*, in consciousness only. There is nothing in consciousness, taking the term simply, to show that it is the real condition of anything whatever, still less that it is *Causa Sui*, or, in Mr. Dewey's phrase, "the only absolute".

Once more, when we speak of consciousness as embracing all knowledge, we are necessarily and *eo ipso* abstracting from it as the *bearer* or Subject of knowledge; and therefore it is a logical fallacy, a contradiction to our own procedure, to speak of consciousness as an universal *knower* on the ground of its being universal *knowledge*. Now Mr. Dewey objects to the presupposition that consciousness has an individual bearer (p. 3), but insists on the pre-supposition that it has an universal one (p. 18). I mean of course that he supposes this

latter pre-supposition to be positively enjoined, instead of being, as it is, positively forbidden, by the fundamental truth, which he rightly and firmly holds, that consciousness simply is all-embracing. Both presuppositions are illogical as pre-suppositions; but then the former, on grounds of experience alone, is demonstrably true of man, while it is in the highest degree problematical whether the latter is true, or even thinkable, in any application whatever, seeing that an universal self can only be represented in thought as an individual self indefinitely, or perhaps infinitely, magnified.

Mr. Dewey stands by no means alone in holding the views he does. He belongs to a large and probably increasing number, who seem to think that philosophy has only two alternatives to choose from, Empiricism and Transcendentalism. The possibility of a strictly *experiential* philosophy, which is neither the one nor the other, does not seem to have occurred to them. Perhaps, for the present, a *prudens quæstio* is the best way of enlightening them on this possibility. When a Germanising enthusiast tells you, as a primary and self-evident truth, that the whole being of the phenomenal world depends on consciousness, instead of arguing the point, ask simply—on *whose?* This will compel him to take one of three courses, maintaining either (1) that consciousness can exist independently of a conscious being, so that no "whose" is requisite, a proposition for which there is no evidence, or (2) that the being who has the consciousness in question is other than himself, the speaker, the evidence for which can never be immediate, or (3) that he himself is the author of the world, an opinion which consistently held would quickly lodge him in an asylum. These alternatives will probably bring to light a confusion in his mind between the fact, which is true, that the *meaning* of the world depends on consciousness, and the opinion, which may be false, that the *real existence* of the world depends on it. Both statements are covered by using the large and unanalysed term *being;* and the truth of the former by no means carries with it the truth of the latter, as an immediate consequence or necessary implication. He has in fact been making an unwarranted assumption, which by a strictly experiential method he would have avoided.

II.

I pass now to the second of Mr. Dewey's two articles, "Psychology as Philosophic Method," in MIND 42. Here will be the place to justify my previous refusal to call the science which Mr. Dewey has in view, in both his articles, *Psychology*,

the term having been so far accepted *argumenti gratiâ* only. Not that my objections will be limited to the question of nomenclature, although even this will involve some consideration of the true relations between philosophy and psychology. They will be directed also to establish that, so far from psychology being shown to be philosophic method, no method at all, psychological or other, is here exhibited. What we have here is merely a reiteration of the sort of results to be expected from pursuing that kind of psychology which Mr. Dewey advocates.

Mr. Dewey begins by identifying the "English development in philosophy" with "the psychological movement since Locke," and of this he tells us, that it is "the ultimate science of reality, because it declares what experience in its totality is; it fixes the worth and meaning of its various elements by showing their development and place within the whole. It is, in short, *philosophic method*" (p. 153). His thesis, then, is briefly this, that psychology is the method of philosophy.

I shall pass over his criticisms of his German or rather Germanising friends of the "transcendental" movement, with the results of which, he tells us, his "method" is in substantial agreement (p. 154); merely remarking that, except perhaps in the political field, I can imagine no more glaring instance of surrendering principles in fact, while still professing them in name, than this surrender of the principles of the experiential to those of the transcendental or *à priori* school. Let Mr. Dewey go over and welcome! to the transcendentalist camp, let him go by all means if he is convinced that truth is on that side; but let him not profess while he does so, that experiential principles carry him over, that he goes in obedience to that "experience" which has always been the distinction of the English school. Let him frankly own that he does so in deference to presuppositions which are *à priori* to experience. We have seen that the fact is so, in the former part of this paper.

No alliance or compromise is possible in philosophy between the two principles of appealing to experience alone and appealing to experience *plus* presuppositions. Now Psychology in the true, and I think also the usual, sense of the word, which is not Mr. Dewey's, is really built upon experience *plus* pre-suppositions, and a true Psychology upon true presuppositions, just as all the other positive and experiential sciences are. This is no derogation from their dignity, nor any impeachment of their validity. There is but one science which is built on experience alone pure and simple,

and that science is analytic philosophy or Metaphysic, or in other words the analysis of that stream of consciousness which contains the *data* of experience, as set forth in the former part of the present paper. But Mr. Dewey will have it, that psychology and philosophy are identical, that there is no philosophy but psychology, or, in his own words, that psychology is *philosophic method*. This *à priori* resolution of his, this Mezentian marriage which he is bent on celebrating, compels him to subordinate the experience of philosophy to the presuppositions of psychology, while still professing to appeal to experience, as a genuine disciple of the English School. True, it is only his logic that is at fault, but then logic is a large *only*.

If English Psychology in Mr. Dewey's sense, in which, as he tells us, it is substantially identified with German Transcendental Philosophy, is to begin with the ideas which Mr. Dewey endeavoured to show in his first article were necessarily involved in its necessary presupposition, it is hardly fair in him to his English readers to call it psychology simply. He ought in simple fairness to have named it psychology human *and divine*. It cannot be "in substantial identity with the presuppositions and results of the 'transcendental' movement" (p. 154), and be psychology in the usually accepted sense too. No psychologist, I venture to say, in this country considers himself to be busied with the psychology of the Universal Self, or to be trespassing on ground covered by the theological doctrine of the SS. Trinity. German Transcendentalism no doubt embraces all this ground, but English Psychology, unless surrendered to Transcendentalism, does not. And, as Mr Dewey frankly admits, transcendentalism itself entirely repudiates the claim of psychology to be anything more than one of the special sciences (p. 154). In short it rejects the proffered morsel.

Supposing however, with Mr. Dewey, that psychology, notwithstanding its substantial identity with transcendentalism, still retains a definite nature and character of its own, a question occurs which, I suspect, will prove not a little embarrassing. The question is this. If psychology is philosophic method, *which* psychology is the one intended? Is it physiological psychology, or is it the psychology of an immaterial Psyche? I content myself with naming the two main antagonistic directions taken by psychologists, without specifying the various subdivisions, or combinations of subdivisions, into which they fall. It is clear that, before psychology can pretend to be the method of philosophy, it must have made up its mind what its own mode of pro-

ceeding as psychology is. To take its method from philosophy would be to contradict the very claim advanced.

Another point. If psychological science is identified with philosophy as its method, and the name *psychology* is transferred to it with that signification, what name is to be given to that positive and special science, which takes its stand upon the results of physiology or biology, and studies the phenomena of sentience and consciousness in connexion with their proximate conditions in individual living organisms? Mr. Dewey will not, I imagine, deny that this is a genuine and fruitful department of positive science, or that it has several close connexions with allied or subordinate branches. Now this branch of positive and special science, which I do not profess to have described fully, but have perhaps described sufficiently to designate the science intended without ambiguity, is now known as *psychology*. But if this name is to be transferred to the method of transcendental philosophising, not only must this positive science look about for a new name for itself, but also the whole nomenclature of its allied and subordinate sciences will be thrown into confusion; I mean such sciences as comparative psychology, race-psychology, psychophysic and the like; unless indeed they too, with probably biology, physics, chemistry, and even (who can say?) kinetics, statics, and kinematics, or even (what is to hinder?) geometry, arithmetic, and the calculus, are to be handed over to a free *à priori* treatment, based on the presuppositions of transcendentalism. At any rate psychology itself (I mean that science which now bears the name) would inevitably suffer from the confusion wrought by the proposed transfer.

Psychology as it now stands, and named by the name it now bears, is entirely in harmony with all the old landmarks of thought, and its position with the position of the other sciences. However important may be the points on which different psychological schools are at variance,—and that they are extremely important is evident from the nature of the two main directions just mentioned, which may be respectively named materialist and immaterialist,—they all agree in the main point of the position and purpose of the science itself. It is to examine the laws of the origin and development of sentience and of consciousness, in all their modes and operations, in connexion with their proximate real conditions, in the individual, whether the conditions or the individuals be of a material or of an immaterial nature. Whatever may be the nature of the agent indicated by the first part of the name of the science, whatever may be the

nature of the *Psyche*, it is always as an individual agency that it is studied, and always as either containing or actuating the proximate real conditions of the states and changes of states of consciousness in an individual being.

Now it is true, and this fact it is which seems, if I may venture to say so, chiefly to have misled Mr. Dewey, that the series of states and changes of an individual's conscious ness is all-embracing; contains, either as data or as results, his whole knowledge. And what is true of one is true of all alike, and of all as individuals. Nor do we positively know of any consciousness which is not an individual's. In studying psychology, therefore, even individual psychology, we seem to have before us the whole content of consciousness to study. And what is more, we have to study it in its entire historical concatenation and genesis, the whole picture which an individual forms of the universe, and the steps by which, during his life and experience, he arrives at completing it. *Primâ facie* it seems obvious, that the study of an object so comprehensive as this can be nothing else than *philosophy*.

But this *primâ facie* view of the case, tempting though it be, is nevertheless not the true one, and for this reason. A point has been silently dropped out of notice in taking it. This is, that the whole picture, in its entire historical concatenation and genesis, is studied only *sub conditione*, subject to a restriction, namely, *in its connexion with the individual agent as its proximate real condition*. This individual agent has first to be distinguished, as an individual agent and real condition of consciousness, from and out of the entire picture of the universe, drawn either by himself or others, but always taken as a picture simply, or rather as a content of consciousness, abstracting from any particular portion or portions of it which may come to be regarded as real conditions of the rest.

An individual is conscious, let us say, from his birth onwards, but he cannot psychologise, however rudely, until he has first, however rudely, philosophised. I mean that he must first distinguish different parts of the content of his consciousness from one another, must perceive them as *differents* simply, before he can distinguish one part as *the condition* of another. The perception or the thought, that one percept or complex of percepts is related to another as condition to conditionate, presupposes that those percepts have been already perceived as different from each other, for this is requisite to the conception of a condition being formed at all. The perception of self having feelings, and the perception of objects giving rise to feelings in self, are cases under this general rule. Now psychology

is occupied with the proximate real conditions of consciousness; and the knowledge of these has to be derived from the content of consciousness simply. Consequently you cannot put psychology into the place of philosophy without subordinating questions of pure analysis to questions of genesis; and you cannot do the latter without, inadvertently indeed but none the less surely, reversing or confusing the true and only real order of knowledge, as it is founded in nature, and manifested in the process of consciousness, which is the process of experience.

Similarly the question whether consciousness is individual or universal presupposes that the meaning of these two terms has been at least roughly ascertained. It can be ascertained only by an examination of the content of consciousness simply, that is, by perception of differences, perception of samenesses, classification and grouping. The same is true of every general term which language contains. It follows that, since nothing but a content of consciousness simply is the logical and historical foundation or datum of knowledge, the sole ultimate test of the correctness of knowledge is *analysis* of the content, and not a presupposition either about its nature as individual or universal, or about its source or real condition as depending either on an individual or on an universal being.

Now this analysis of consciousness as a content simply is, what nothing else is, an appeal to experience and experience alone, in the strictest sense of the term. And this circumstance distinguishes it sharply from every other branch of intellectual work. Every other branch of knowledge has presuppositions derived from this branch, has a portion of the field of labour marked out for it by reference to distinctions which are established by analysis simply. In this respect the analytical branch stands to the rest in the relation of whole to parts. Just as the content of any individual's consciousness, taken simply as content, is all-embracing, in the sense of all objects being within its purview, so this subjectively analytic branch of knowledge embraces in its purview all the other branches of knowledge, in the sense that it knows in what part of its own field they have their points of origin and departure. Psychology has its point of origin and departure in the conception of the real condition or conditions first originating and then governing the course of consciousness in a real being. It follows that psychology can only then be based on experience alone, when its presuppositions are derived from metaphysic. Presuppositions it must have; and metaphysic is the only means of securing for these an experiential basis.

It cannot be denied that there is such a branch of intellectual work as I have sketched, distinguished sharply from all other branches (1) by its being analytic of experience, as such, and without any presuppositions or assumptions, (2) by its giving an account of the presuppositions of all the other branches, and of their points of departure from its own universal content. Its existence is a logical necessity. But how soon it will be recognised, how soon it will begin to be generally cultivated, or cultivated under its proper and specific name *Metaphysic*, is another thing. In this country the name *metaphysic* is usually reserved for speculations like those of Mr. Dewey. We are slow to recognise in the analysis of experience without assumptions Aristotle's science of Being *quâ* Being. Nevertheless that is the plain truth. If we want *to know* what Being *is*, we must ask what *it is known as*. The words are almost a tautology. It follows that, if you can discover anything which belongs universally to the *whole* of consciousness as a generalised content, you have found something which is a predicate of the *whole* of Being as a generalised content; for Being is the object known in consciousness. And this is a very different thing from any mere Theory of Cognition, as the Germans call it, which, from ignoring the distinction of experience between the content of consciousness and the agent, or agency, supporting consciousness, leaves consciousness and Being standing severally and apart, over against each other,—*cogitatio cogitantis* on one side, and *res existentes* on the other,—which like two clocks require, in theory, some third thing to harmonise them, so giving rise to absolutist and transcendental hypotheses, which never can be verified in experience.

The content of consciousness simply as content is the object-matter of metaphysic. Each individual examines the content of his own consciousness, but simply as content, that is, abstracting from the question of its genesis and history in himself, which he leaves to psychology. The content taken in this abstraction is not many but one; the individuals in whom each content originates, its *termini* so to speak, are many; but the content is *one*, common to all the individuals, that is, it is the Universe as known or knowable. Psychology is not the science of the universe, but of the soul, that is, of the individuals in relation to consciousness. Metaphysic is the science of the universe, the common content of all individual consciousnesses. In metaphysic we have to harmonise what we know ourselves with what we know that others know. In psychology we search for the conditions which govern the nature and order of our own

states of consciousness as peculiar to ourselves, the connexion between them and their conditions being the thing sought. In metaphysic, though we cannot unbind ourselves from the *fact* that our consciousness is individually conditioned, yet we can abstract from it so as to avoid making it the object of inquiry. But we cannot abstract from it in psychology, for the plain reason that it is the special fact which psychology has to study. Of course I do not for a moment deny that psychology is of the utmost service to metaphysic, and exercises a most important and even necessary control over its analyses, for which reason the two should never be sundered, and certainly not in the interests of metaphysic, supposing always that psychology is properly constituted on the basis above described. And the same may be said of all the positive sciences in varying degrees. Metaphysic is at once their basis, and its content their generalised counterpart or subjective aspect, which must be harmonised with, and partly by means of, their results. Nevertheless the logical *principia* of psychology and metaphysic are different, as well as their purposes and methods. They are not distinguished by one being the science of the individual soul, the other of the universal soul, but by one being the science of the real conditions of consciousness wherever found, the other the analysis and classification of its content.

But it is time to bring this paper to a close by asking the final question, What does Mr. Dewey mean by method? If psychology is the method of philosophy, what is the method of psychology? A method we naturally expect to be some principle or rule which guides our procedure in investigating. What, if any, are the principles or rules proposed by Mr. Dewey as special to psychology? There are literally none. There are plenty of passages which speak of *what* psychology is to do, but very few of *how* it is to do it. One remarkable passage indeed there is, in which it is said that "Psychology is the completed method of philosophy, because in it science and philosophy, fact and reason, are one" (p. 165). But if psychology is only the *completed* method of philosophy, it looks as if the method while at work, and before completion, belonged rather to philosophy than to science.

The passage which comes nearest to a description of the method of psychology is the following :—

"But the very essence of psychology as method is that it treats of experience in its absolute totality, not setting up some one aspect of it to account for the whole, as, for example, our physical evolutionists do, nor yet attempting to determine its nature from something outside and beyond itself, as, for example, our so-called empirical psychologists have done" (p. 168).

The method is here described by negatives only. It consists in the precepts to avoid the faults exemplified by the physical evolutionists on the one hand and the empirical psychologists on the other. But as to any positive direction how to go to work in investigation, there is a blank. This is quite what we should expect from the identification of psychology with transcendental philosophy.

The reproach of being wanting in a positive method by no means attaches to philosophy when philosophy is taken in its true sense. There is a very definite method in Metaphysic as I have sketched it above. Besides the characteristics already named of being subjective, analytic and avoiding presuppositions, its method consists in taking the distinction between *nature* and *genesis* as its guide, and using it so as always to subordinate the question of genesis to the question of nature. It always asks first the question, *What is this thing known as*, before proceeding to the questions, *how it comes* and *how it behaves*, or *what it does*. Positive science proceeds by way of definition, hypothesis and verification. Metaphysic, the business of which is to get a true picture of things, a content of consciousness at once complete and self-accordant in all its parts, proceeds by way of analysis guided by the above distinction, in order to avoid, or at any rate to eliminate, assumptions unwarranted by experience.

In conclusion I would remark that the fundamental fallacy of Transcendentalism as well as of Empiricism, when this latter sets up for philosophy, consists in a violation of what I hope I have made evident is the fundamental principle of true, that is, metaphysical philosophy. This principle is, that the all-embracing character of consciousness (which is that feature in it which enables it to be the basis of philosophy), is true as fact only when understood of the *nature* or *content* of consciousness, abstracting from its agent or bearer, the conscious being, whether this being is conceived as an universal or as an individual being. English thought, when it does not adopt this distinction, and I need hardly say that it most commonly ignores it altogether, usually inclines to the individual hypothesis,—I mean to identify consciousness with an individual being. By so doing it retains validity only as scientific psychology and cuts philosophy entirely adrift. Transcendentalism, which also ignores it, inclines on the other hand to the universal hypothesis, that is, identifies consciousness with an universal being. Thereby it retains validity neither as philosophy nor yet as scientific psychology. By one stroke it substitutes psychology for philosophy and makes its psychology illusory.

III.—HEGEL'S CONCEPTION OF NATURE.[1]

By S. Alexander.

Hegel's Philosophy of Nature forms the second part of his great *Encyclopædia*, lying between the science of Logic and the science of the Spirit. In nature, according to Hegel's system, the notion of which Logic treats flies apart into points of matter, held together still, like the rings thrown off from the planet Saturn, by allegiance to their origin. In spirit the notion is real and complete: nature at best is life, the *disjecta membra* of the Idea; but spirit is life and notion too, or the living notion which we call mind.

The *Philosophy of Nature*, as we have it in the *Encyclopædia*,[2] contains, besides the originally published treatise, supplements derived from his lectures, which often illustrate the severe thought of the text by lively and brilliant ideas struck out in the heat of delivery. Besides this volume we have the early system written at Frankfort,[3] the greater part of which is occupied by Nature; and in the *Propædeutic*,[4] which Hegel wrote for his boys at Nürnberg, some pages are devoted to the same subject. It would be an interesting task to compare these three different forms of the philosophy with one another and note their points of difference; but they are in the main identical, and the phenomenology of Hegel's own mind may be neglected in a paper which pretends to give only a sketch of Hegel's general position as a philosopher of nature. The *Philosophy of Nature* is certainly one of the most suggestive, and just as certainly the most perplexing of Hegel's works. It is nearly always mentioned with an apology. Though it was founded on the best knowledge of the time, how small that knowledge seems to be! and then again it is so fantastic and so poetical that it may often be thought not to be serious. For instance, when it is said (p. 151) that the tides are caused by the longing of the moon's parched and lifeless

[1] Read before the Aristotelian Society on 25th Jan., 1886.

[2] Hegel's *Werke*, Bd. vii. 1, *Naturphilosophie*. Where only the page is quoted, reference is made throughout the paper to this volume.

[3] Described in Rosenkranz, *Hegel's Leben*, pp. 99 ff. The section on Nature is pp. 112-123.

[4] Hegel's *Werke*, xviii., pp. 169-178.

crystal for our sea, by which to allay its thirst, who can help feeling that they are much more intelligible in the ordinary theory of attraction? And yet is not this very 'attraction' full of poetry, and actually transferred from human interests to natural facts? And is not the history of evolution itself a great epic, not without its tragic side—the march of destiny in the natural world, and not without its touches of epic irony—the great universal battle of frogs and mice? Wherever science appears to be largest and truest it appears most poetical and most philosophical. However, I do not mean to apologise for Hegel or to defend him: my object is to represent his view of nature as simply as I can and, where I can do so, in my own way, without much use of Hegel's technicalities; and secondly, I wish to point out some of his merits and defects, and to show what bearing his conception may have on some current ideas.

I.

The Relation of Philosophy of Nature to Physics or Natural Science.[1] Physics, *i.e.*, Natural Science, and the Philosophy of Nature deal with the same subject; they differ only in their mode of thought. Science thinks nature, philosophy comprehends it; science casts nature in the forms of the understanding, to philosophy nature is presented in the form of the Idea or Notion: hence the former is said to be a *denkende*, the latter a *begreifende*, *Betrachtung* of nature. It is the outcome of physics, the mode of thinking which the mind is compelled to adopt by science itself. It can only begin when science has already achieved certain results: experience must have been collected and laws discovered before philosophy begins, and it can continue only when checked by experience. The express declaration of Hegel to this effect[2] is sufficient to show the absurdity of supposing that his Philosophy of Nature is an *à priori* construction of experience: it is only experience of nature transformed into thought, and therefore independent of merely individual experience.

This relation of natural philosophy to natural science is repeated in all special philosophies, and in philosophy or metaphysics in general. They are often thought otiose because they do not precede but follow actual achievement. The philosophy of history requires to be preceded by an intelligent account of men and movements, which it uses as

[1] Einleitung, pp. 7 ff.

[2] Wallace's *Logic of Hegel*, pp. 15 ff.; cp. *Werke*, vi., pp. 18 ff.

material for discovering how the idea of the state develops. A metaphysic of ethics presupposes a scientifically arranged description of the facts of ethics. Metaphysics itself must be preceded by the reflection performed by the understanding upon the ordinary facts of knowledge. Science provides everywhere the material of philosophy. To quote a sentence of Hegel which has often been quoted, "The philosophical method is not a mere whim, of walking once in a way for change upon your head, when you are tired of walking on your legs, or of painting up for once your everyday face. It is because the method of natural science does not satisfy the Notion that the step to philosophy is taken" (p. 18).

Let us then explain how it is that science leads on to the philosophy of nature.[1] We begin the study of nature with (1) Observation. Guided by the instinct that the world is rational, observation transforms the isolated individuals into universals, by discovering their marks or general character. On this process are founded the classificatory sciences. The next step is (2) the Discovery of Laws, which is the business of rational natural science. Observation leaves objects in their repose, with permanent general characteristics which distinguish them from other objects: science takes account of the inner negation of things by which they violate this illusory quiescence, negate themselves and other things and place themselves in a process of restless connexion with one another. In discovering what are these active relations science rises a step further above sense, for the sensible facts are transformed into vehicles of a law in which their sensuous character is obliterated, or, as Hegel puts it, "Sense is not in and for itself, but for the law".[2]

In neither of these processes is there a blind subservience to nature, but a mutual helpfulness of nature and spirit which is a prescience of their affinity. It is through this instinct of reason that these laws are regarded as true: not until their defects are observed do we hesitate and regard them as merely probable. Thus science thinks nature, permeates it with reason, epitomises nature by thought, which is the great epitomiser.[3] It thinks nature even in the distinction which in observation it draws between essential and unessential marks: still more in the notion of law. The physicists often imagine they do but follow nature, but they are better than they imagine (p. 6): if they were not, Hegel

[1] *Phänomenologie* (*Werke*, ii.), pp. 184 ff.

[2] *Werke*, ii., p. 189.

[3] Cp. *Werke*, ix., p. 8 (*Philosophie der Geschichte*).

says, the beasts would be the better physicists, for they devour nature and turn it to their own purposes (p. 16).

But though science thinks nature it is imperfect (p. 19), for in the first place its universals are left abstract or formal : they are taken from facts as we find them, abstracted from them, and therefore seem to exist apart from the actual thing. The conception of specific heat, for instance, is derived from observing certain sets of facts, which are generalised under a common name ; it is not shown why there should exist particular facts of this quality. That the angles of incidence and reflexion are equal is a general law, common to all instances of light impinging on a mirror ; but this law gives only a common quality without assigning its secret.

And with this is intimately connected a second defect, at bottom identical with the former. The content of the natural facts is in the scientific law dissected, and falls into separate parts. Just as a flower is said to consist of various parts, or a body is regarded as a combination of many qualities, strung together by help of the connecting particle 'and' (compare *Phänomenologie*, pp. 84 ff.) : so in the law that bodies fall through spaces which vary as the square of the time, body and fall and space and time are unconnected. The content is thus not a complete and concrete whole whose behaviour is the necessity of its nature : for philosophy the law of fall must be shown to follow from the very conception or constitution of matter ; it will then be exhibited as a law of distance and time.

It is these imperfections of physics that render a philosophy of nature possible and necessary, the office of which is to exhibit the whole world of nature as a system of ideas, each of its ideas being contained in the supreme and concrete idea of nature.

II.

What then is Nature? The question can be answered properly only in the complete elaboration of the Philosophy of Nature. But in the abstract there are two ways in which Hegel answers the question ; the one answer places nature in connexion with the logical Idea, the other in connexion with the idea of Spirit. According to the former, Nature is the self-liberation or the self-alienation, or the otherness, of the Idea ; according to the latter, Nature is that which is transcended so as to become Spirit.

(1) The Idea or Notion, Nature and Spirit are the names of the triad which makes up the whole of reality : the last

is the complete expression of the former two in their combination, and it is implicit in each of them. In each of the triad the other two are in fact implied in different ways, and when the Idea is spoken of for itself it is always through reference to Spirit that it has a meaning, and that in fact its process can be discovered. The logical Idea is the whole world of natural and intelligible things in its abstract form, but it is no mere reposeful conception; it is a process, the process of dialectic. It is not merely a process for us, with our habits of learning, but in itself a process, and therefore, like the Platonic dialectic after which it is named, identical with its method. Hence in its beginning its end is contained: the bare category of Being is full of the negativity which is the secret of the Notion, the final result. The office of Logic is to show how simpler and abstracter forms of the Idea are absorbed into the end or total Idea. This Idea is not mere immediateness, such as is imaged by existing things (*Seyn*), nor relation, such as is repeated in nature in the causal connexion of things (*Wesen*), but it is self-determination, such as again is imaged in the will (*Begriff*). As thus complete within itself, turning round upon its own axis, and maintaining its cohesion through its very tendency to fly apart, "returning out of its negativity into itself," it is once more immediate, exists then and there, but it is enriched by all the distractions, all the divisions within itself, all the struggles to rise above itself through which it has passed. This metaphorical language, however, does not mean that the Idea undergoes a process in time: it is a timeless process by which one idea is contained in a higher, which therefore develops out of it: it exists as a whole.

The logical Idea, then, is absolute knowledge, or that which is self-centred. What corresponds to it in religious language is the conception of God the Father. But it is still abstract, purely thought; though defined as the union of thought and reality, and therefore concrete in character, it is out of its own imperfection *as thought* that it has returned into repose. So far it is subjective and needs realisation in another sphere. God the Father must appear as God the Son. The Idea having traversed all its stages has returned to its beginning, to Being, and as such it is that which is, it is Nature. This is no new determination beyond the Idea, which needs not to pass beyond the circle in which it turns, but is the whole Idea as real. It is the Idea as other which is contained in the Idea, and therefore described by Hegel as the self-liberation, or self-alienation and self-resolving

of the Idea: not beyond the Idea, but the Idea itself as really being.[1]

This transition is very obscure, and perhaps impossible; but if we may in an account of Hegel permit ourselves the language of mere conception *(Vorstellung)*, we may think of the Idea as the complete law of the universe. In this completeness, needing no aid from other laws, it is itself something; it is, as it were, condensed into points which we recognise as nature. For things are actually made by the laws which are the relations between them. Hence a perfect law is a perfect system of nature which is its bearer or expression.

Nature is in this way the otherness or the self-liberation of the Idea, and yet permeated or interpenetrated with it, so as to be transparent to it. In his earlier school-lectures[2] Hegel described it as the copy of the Idea, but neither this nor the description I have given is to be understood as equivalent to the common saying that nature is the mirror of God. Hegel might say that such metaphors were true, but insufficient for the abstract nature of thought: they did not explain the real connexion of thought with nature. Still less would he admit that in being transparent to thought nature was in fact a system of spiritual atoms; his coarse common sense would have rejected the vague mystery of such a conception.

But this does not exhaust the logical character of Nature. We have recognised it only as the Idea in the form of immediateness, of existence then and there, in virtue of its being the self-liberation or otherness of the Idea. But being the otherness of the Idea, of that which is always one and single and self-contained, it is the other as such, or it contains in itself the principle of otherness.[3] It therefore falls apart into a multitude of isolated parts or characters, all external to each other; and in its first or immediate form it is Space, the very abstract idea of self-externality, in which every part is indifferent to every other. Hence the accidentality and the blind necessity which constitute nature: it is accidental because of the indifference of its parts; it is subject to necessity because in their indifference they are yet constrained within the unity of nature as a whole (p. 30). This necessary

[1] In expounding the first element in the notion of Nature as the immediateness of the Idea, its otherness as merely being, I am following the transition at the end of the larger *Logic*.—*Werke*, v., pp. 352-3.

[2] Rosenkranz's Preface to *Propädeutik* (*Werke*, xviii.), p. xvii.

[3] Einleitung, pp. 23 ff.

connexion between two different things which yet form a unity is expressed by the scientific conception of polarity. Nature reveals the difference inherent in its conception as an actual separation of two things: it is the other as other; and Hegel, with a quaint reminiscence of Plato, sees in this the secret of the recurrence in nature of the number four, in four elements, four colours, or even five—one for the notion, two for its difference, one for its return out of difference (p. 31). The accidentality or indifference of nature is thus of its essence, and is exhibited to us in the wild confusion of its forms. Though transparent to Spirit, it is like a magic beryl, full of wild, fantastic shapes: it is a "Bacchantic god" (p. 24): it cannot preserve the outlines and limits of ideas and types, but in its profusion of forms, and in the monstrosities of organic life (p. 651), it varies from them indefinitely. This ~~unity~~ which we so much admire in nature Hegel regards not as its glory, but as its weakness *(Ohnmacht)*, its inadequacy. Hegel never could be induced to admire mere variety or multiplicity: with the true instinct of the philosopher he sought relief from the broken lights of the Idea in the self-sufficiency of the Idea itself; the starry heavens bored him. To him, though its otherness was Nature's law, it was its primal vice or defect, out of which arose its effort to become what it implicitly is, Spirit.

(2) We have traced the connexion of Nature with the logical Idea: we have to show its relation to Spirit. Spirit *(Geist)* is the truth of Nature, which therefore presents itself as a series of stages which lead up to the notion of Spirit.[1] It begins with Space and Time, the bare notion of self-externality, and it ends with organic life, in which nature, though not yet spirit, yet shows that self-concentration, or inward reflection (recognised in its simplest form in the process of assimilation and conservation), which is the prelude to the life of spirit. As the spirit in the forms of Religion is the Holy Ghost as it exists in the minds of the community, the natural man informed with the Idea, which is God, through the medium of the Son, so the Spirit or Thought is the Idea completely realised, a return from its own externality as Nature into itself as Spirit. "The end of nature is to destroy itself, to break through its immediate sensible covering, and like the phœnix from its flames to arise from this externality new-born as spirit" (p. 695). "This liberation from nature and her necessity is the notion of the philosophy of nature." But once more it is necessary

[1] Einleitung, pp. 32-39.

to follow Hegel in emphasising that these stages are not stages of actual natural development, which occurred in fact and were open to the observation of whatever minds may have lived in the past. They are stages in logical development, they grow out of each other by logical necessity : "the forms of Nature are forms of the Notion, though in the element of externality". Each stage is not the historical outcome of the preceding, as we might say that the existing horse with one toe is the outcome of the Pliocene horse with five, but its truth, which was contained in it and is evolved from it by the inner necessity of the notion of nature. The theory of evolution is a theory of the history of nature, and whether it be true or false it is a series of events in time ; but the Hegelian development is an eternal process, which is present in its totality at any one moment of nature's existence. It is nature in the form of thought, and a process as thought is. Thus spirit is not a natural product which grows out of nature, but is a conception present throughout nature, higher than nature, and therefore the ground of the possibility of nature.

This development of conceptions may be described as a progressively definite assertion of what is contained in the notion of nature : in each new stage characters which were latent in the preceding come to overt existence (p. 38). The process has therefore a double appearance. On the one hand the more the different parts into which in nature the Idea falls receive a definite character, the more completely is the Idea externalised and explicated, the more does it go out of itself. At first it is like a mist, self-external, but homogeneous, the protoplasm of externality ; by and by it forms into definite characters, and ultimately it is organic. But on the other hand the Notion is always present in its external forms, and holds them together into unity ; they may resist our understandings, but they cannot ultimately resist the Spirit : and therefore from this side the process is one of ever greater inwardness ; "the evolution is also involution," until in life the notion is clear and evident.

III.

Divisions of Nature. The different stages of conception which nature exhibits form the bulk of Hegel's *Philosophy of Nature.* It would be impossible to describe them all, even if I could be sure that I entered fully into the meaning of all of Hegel's distinctions. I shall therefore describe only the main divisions of the subject, and shall

then illustrate by a few examples the minuter elaboration of Hegel's view.

Nature falls into three great stages, each higher than the preceding, the subject of three departments of Natural Philosophy—Mechanics, Physics, Organics.

(1) *Mechanics.* In mechanics Nature is regarded in the abstract, in the simplest and vaguest form of its idea—that of externality: its parts are relieved out of their total indifference to each other by a unity which is merely ideal or potential, not yet so realised in each of the parts as to give them character or individuality one against the other. Mechanics deals therefore with Matter, but as formless: its unity is outside it, in that simple tendency to a centre which we know by the name of gravity. This unity is but an aspiration, an unrealised ideal, a *Sollen* Hegel calls it. Beyond this attractiveness by virtue of which it is in perpetual self-repulsion matter has no other quality (pp. 67-70).

However, matter is not that which comes first in the logical order of mechanical nature. That beginning is the complete and soulless self-indifference of nature which is Space (pp. 44 ff.). Space and Time together are abstract self-externality. They involve each other and combine to produce Motion, the soul of the world, which precipitates matter in its process, in a way which will demand a fuller attention later. Matter and the motion or *fall* by which it manifests the elements in its nature are the sphere of finite mechanics.

There is a third sphere of mechanics, the mechanics of matter in its conception or notion, the mechanics of motion which is not, as in the case of fall, only relatively free, determined by the accidental distance of a body from its centre, but is free absolutely or immanent in matter itself. This is the free circling motion of the heavenly bodies round their central sun (pp. 94 ff.), the system of minor centres which maintain their individuality by their free relation to a greater centre: an image of that restraint and conservation of free individuals which in the sphere of spirit is realised in the state.[1] The special laws of motion, which are known as Kepler's laws, follow from the conception of this system as such.

(2) *Physics.* In all the three portions of mechanical nature it is quantity and quantity only that is exhibited, and all its characters and relations are quantitative. But already in the final form, the free movement of the heavenly system,

[1] *Logik*, iii. (*Werke*, v.), p. 197.

there is attained by means of a totality or system of motions a unity which is beyond the mere aspiration of matter itself. In physics (pp. 127 ff.) this unity has advanced one step further, and has become a form or quality. The matter of which physics treats is individual or qualified, or has its centre within itself. The characters of the Idea becoming more definite in their externality, nature takes a further step in self-reflection, and appears as actually ideal. It is but a little way to that highest self-reflection which exists as the human spirit turning the outer world to its own uses. And the first adumbration in nature of this higher ideality is already the counterpart of the Ego : it is Light, which is matter qualified as pure identity, the self of matter (pp. 130 ff.). Only it differs from the self of spirit because it is quite abstract, bare pellucid identity, undimmed by difference, while the Ego or person is an identity which is maintained through difference, and lives by subduing antagonism; or, as Hegel puts it, " Light is manifestation of itself, not for itself, but only for other " (p. 132). Light spreads through space, but the Ego is a point of unity. Light, then, is the first manifestation of what Hegel calls *Universal Individuality*, the simplest universal quality of nature. It has its negation in the Dark (p. 142), the limit against which it can differentiate itself from its mere identity and be seen as light. For light as such is invisible. Still more complex are the natures of the four elements, Air, Fire, Water, Earth, which with the meteorological process of the elements complete the stages of universal individuality, the abstract determinations of nature in the large. But physics has to deal with more concrete ideas than this : first of all with matter determined in its material form, in which the form is only spatial (physics of *special individuality*, of which I shall speak presently), and lastly with what Hegel calls *total individuality*, where the form is immanent and there is some approach to a truer unity. But it is still only struggling and is expressed still as a relation between two things : it is conditioned and requires another. It appears first as Magnetism, which Hegel regards as the principle upon which figure is formed —a natural syllogism which holds together two sundered points (p. 246). Hence too its law, for, being notional and yet in nature and spatial, it negatives the identical, or repels it. In its highest form this unity appears as Chemical Process (pp. 360 ff.), which destroys the indifference of bodies.

(3) *Organics.* Chemism prepares the way for the final stage of Organics, where Nature first acquires the character of subject, with the power which a subject has of gathering

up all its parts or differences under its own control. In the organism we have no longer a mere relation between bodies, rising at times to a furtively ideal character, but a negative unity which maintains itself by existing in different parts. Such a unity is Life. But as vegetable life (p. 470) it is still simple and immediate, not yet fully expressed, and it therefore returns to its old form of self-externality: its members are a repetition of itself, it is composed of buds and branches, each of which is the whole plant; it is rather the soil in which many individuals grow than a single organised subject. Its parts are not really different, but, according to Goethe's famous theory of metamorphosis, they pass into one another. It never gathers itself together for the collective act of feeling.

But, in the animal, life exists not merely potentially as subjective, but really; the external form is so idealised as to become limbs or members of a whole, and the organism in its process towards without retains its own individual unity (p. 549): it lives by reaction and by assimilation. Its voice, its motion, its warmth are evidences of the freedom of total life to which all its members contribute. And in its feeling it reaches the highest expression of self-contained unity which Nature can hope to attain.

In a philosophy of organic life you would expect to begin with life; and though this part of Hegel's *Philosophy of Nature* is perhaps the most valuable, yet it is one of the most puzzling things in the whole work to find him speaking of the Earth geologically considered as the first form of life, in which subjectivity is identical with the outward organism. The Earth is a system of geological members, the corpse of the life-process by which they were engendered; but though itself the source of all life, its own life is extinguished and is a thing of the past (p. 430).

Before we proceed to some minuter examples of Hegel's method let us note that these divisions of the philosophy of nature correspond to the divisions of Logic and Psychology. The three parts of Logic are the Idea as immediate or Being, the Idea as in relation or Essence, the Idea as returned into itself or Notion. Correspondingly, Mechanics is Nature as it exists immediately, then and there, in Being; Physics is Nature in relation, separate bodies or characters in connexion; Organics is Nature in notional unity. In like manner the science of Spirit treats first of man as natural (Anthropology and Psychology); secondly, of man under relations of law and necessity, which for him are the expression of a world of freedom (Objective Spirit or Morality);

lastly, of the forms of the Absolute Spirit (Art Religion, and Philosophy), in which his complete notion is attained. If each of the three—Idea and Nature and Spirit—shines in reality through the other two, it is plain that a correspondence of this kind is to be expected. It points to the truth that Idea and Nature are each of them abstractly what Spirit is concretely or realised, and that Spirit is its own recovery from Nature. It is a truth which in reading Hegel we are apt to lose sight of, being misled by the delusive appearance of a regular progress from Logic to Nature and thence to Spirit. In reality they are parallel developments, not, however, separate, but mutually involved.

IV.

I will exemplify Hegel's method in detail from each of the three great divisions of Natural Philosophy. These examples will illustrate both the ideal character of facts which in our ordinary experience we learn mainly through our senses and without reflection, and the process of dialectic by which one ideal character is absorbed and held in solution in a higher and more definite one.

(1) *Space and Time.* Space is the first or simplest and most abstract form in which the Idea appears as Nature. It is not, as in Kant's view, something subjective, a form of the mind, for Hegel's philosophy does not deal with the elements of knowledge as they are contained in the mind or the consciousness, but with knowledge as such, which in our consciousness we only recover. We think of matter as something solid and substantial, different altogether from space and time, and we ascribe to it a reality which we deny to them. This is a mistake: space and time are in the world as much as matter, which is, as it were, a condensation of them, much in the same way as in the old Ionic philosophies the whole world was derived from the abstract idea of an element by condensation and rarefaction, that is, by positive and negative movement. Space (pp. 44-5), then, is Nature, but Nature as totally indifferent—it is juxtaposition pure and simple without a break: it is the natural form of the logical idea of quantity, the essence of which is its continuousness and its indifference; no matter where you stop in measuring a thing you still have mere quantity, and you leave the quality unaffected. However, space is not motionless—it would not in that case be transparent to the idea—it has within it the beginning of life or negation; but its life is a weary round which never gets beyond itself: every

moment is absolutely identical with every other, and that is the defect of space. The negation of space is the point, but each point is equally every other, and generates therefore a line and line a surface (pp. 48-9). The point is only the beginning of the line: it is a limit which directs you to go beyond, and yet you are always where you were before. Space is such an eternal monotony as we may figure the life of Mr. Spencer's Unknowable, only unconscious of its own ennui. But this negativity of space by which it is for ever negating itself while it yet remains identical is exhibited in nature definitely as negation in the form of time (p. 52). Such phrases as 'a point of time,' or 'an hour's distance from here to there,' are testimony that space and time are inseparable. Time is the negative unity of externality; it is continuous or self-external, but it is perpetually self-destructive. It is while it is not, and is not while it is; "Chronos devouring his own children," Hegel says (p. 54). It is not made up of moments any more than space of points; but it is an eternal present in which two things are combined, being and not being. Regarded as being which is not, it is the past; regarded as not-being which is, it is the future (pp. 57 ff., especially p. 60). Hence, we may say for Hegel, the justice of the trite comparison of time with a river: only while Heraclitus declared you can never bathe twice in the same stream, we shall have to say you can never bathe twice in a different stream.

For Heraclitus was thinking not of time, but of something more definite, *viz.*, Motion, the logical genesis of which is this: Time though negative is still indifferent, every present is a past; here it combines with space, and the result of their combination is *place*, a spatial now (p. 62). Place is different from point, for a point is anywhere, but place is only one: it is a point of space fixed in time. But place regarded as space is indifferent; it cannot be thought without some other place, to which it *moves*. Of this process of motion matter is the precipitate, it is motion as it were arrested, the limit of motion, the union of time and space. Hence matter and space and motion are interchangeable; on the lever a greater distance acts in place of mass (p. 63 *ad fin.*), or a falling stone may be fatal in virtue of its rapidity—"a man may be killed by space and time" (p. 64).

(2) In Physics the theory of *Special Individuality* affords an excellent illustration of Hegel's method. Special individuality is distinguished from the universal individuality of the elements and their process by its specific character; it is distinguished from magnetism and chemism and electricity,

which are stages of total individuality, by its want of self-completeness. It is as yet not a totality or a system, and therefore it is in form a mere relation between different bodies or parts of a body (p. 188). Matter as specified in the simplest way is *specific gravity* : it thereby holds a place and character of its own as compared with the general filling of space by abstract matter (p. 190). But since matter is essentially self-external, this relation or specification appears further as the definite connexion of material parts in a body, or *cohesion* (pp. 195-205). Such cohesion is of different kinds : it may be simple *adhesion*, *i.e.*, quite indeterminate cohesion, or it may be the *coherence* (p. 205) of matter with itself, its character of yielding to outward force, while in the very act of yielding it preserves its own mode of composition, as, *e.g.*, brittle glass when struck will break up into pieces, but resists extension ; or thirdly, it may be *elasticity*, which is cohesion exhibited in motion, the body giving way and yet maintaining itself. This ideality of matter which exists in elasticity is still more visible in *sound* (p. 205). If cohesion was material space, sound is material time. In sound the indifference or externality of the parts of a body is denied and the body vibrates ; the particles oscillate or momentarily move from their places, but yet they are constrained within the unity of the body and their places restored. " It is the cry of the Ideal under foreign power, but withal its triumph over this power " (p. 209).

It is but a step from here to the nature of *heat*. " It is not only the musician who plays, but the instrument which sounds, that grows hot " (p. 223). Heat is not like sound a mere ideal destruction of cohesion, accompanied by restoration of it, but a real destruction ; and the body under heat expands. In sound the external force of the blow is repelled, in heat the body yields and becomes fluid. " This fluidity of body (*i.e.*, its *real* ideality) is the birthplace of heat, in which sound dies " (p. 224).

(3) Hegel's treatment of the idea of *animal life* is perhaps the most interesting and profitable part of his philosophy of nature, and would well bear a more detailed reproduction than can be given it here. The idea of animal life takes a triple form : it exists first of all as the process in which the organism is self-related, its active unity by which it gathers together the many threads of its organs into one. This process Hegel calls the process of *figuration* (p. 559). This process too is threefold in character, and, as one of the most suggestive results of Hegel's work, deserves a short description. It is often recurring in Hegel, and plainly it was to

him a fascinating thought. These three elements are sensibility, irritability and reproduction. In sensibility the animal is receptive; the suggestions that come from each part are transformed by the identity of the subject, it is the universal suffusion of the whole animal as a unity. Its irritability is its reaction against external stimuli, whereby its special character is maintained. In reproduction or self-preservation we have the combination of this universal sensibility and this particular reactiveness to form the individuality of the organism: the animal through feeling and reaction reproduces and preserves itself.

The second stage of the idea is the process of *assimilation* (p. 595), arising from the antagonism of the animal to inorganic nature, which it therefore turns to its own uses, renders subservient to its own unity, assimilates: theoretically through the medium of such senses as sight and hearing, practically through other senses. What is here to be enforced is that the relation of the organism to its environment is not one of causality, but is a life-process in which the result is determined by what the organism is to be. Not in its past only, but in its future also lies the secret of selection. The environment is assimilated only so far as it has in it what is needful for attaining the end of the organism.

Lastly comes the relation of the individual organism to its genus (p. 640), and this too has different stages. The individual is after all only an individual, inadequate to express the universal character of the genus. Alone, he imperfectly attains the end of the genus, and this imperfection implies that the feeling of self be realised by union with another individual, as it is in the relation of the sexes (p. 642). But the result of the union is still simply to perpetuate the genus in individual form at the cost of the lives of the parents. The genus is still unrealised. But the sexual relation is the defect of the individual, because he represents one side, and one only, of the generic idea. In its highest form, however, the relation of genus and individual is exhibited in natural death (p. 691). This is due to the disproportion of what the individual is and his real self or genus, what he is trying to be. He carries within him from his birth the seed of death, which when it comes is the victory of the type over the individual. From this death of nature arises Spirit.

V.

Hegel's Totality of view. It will be through some failure in the execution if the foregoing account has not made

two things clear : (1) However abstract and difficult the process is, and however unacceptable particular conclusions may be, yet Hegel's Philosophy of Nature is an attempt to understand the forms of nature as they really are apart from the ordinary prejudices with which we approach the study of them. It is so difficult just because it demands the effort of following the order of thinking instead of the order of experience. And (2) that its distinguishing feature and merit lies in Hegel's sense of concreteness and totality, his habit of regarding things as a whole, according to the place they occupy in the system of nature. Hence it is he separates many things which are usually put together. He will not regard the four elements as chemical compounds because their function is not chemical (p. 159) ; though he knows of the equivalence of electricity and magnetism and heat, he refuses to identify them (p. 260). He separates colour from light, and the sensible qualities of objects from the senses of animals. The whole of the system may be described in fact as an attempt to arrange natural facts according to their logical function in the economy of nature. Here indeed, as elsewhere, the dialectical process seems to be guided by a sense of logical propriety, an instinctive presentiment of what must come next in the order. Experience is always suggesting its facts, and it is only because it is kept in the background that the dialectic seems to have prepared for us, after many anxieties of abstract thought, the surprise of a familiar face. It is a logical re-arrangement of experience, and logical because instead of regarding experience from many different points of view, or in abstraction, like the special sciences, Hegel treats it as a whole, in the concrete. Hegel's abstract thought is for ever battling against abstraction. It is this concreteness or totality of view, the philosophical counterpart of common sense, that determines Hegel's attitude both to previous philosophy and to the methods of science.

(1) *Hegel's relation to previous Philosophy of Nature.* It is no part of the present article to trace the connexion of Hegel's philosophy of nature with Kant's and Schelling's. To Kant, especially in his conception of organic life *(Critique of Judgment)*, Hegel's debt was immense. The amount of his indebtedness to Schelling I am not able to measure. It is in his attitude to Kant's conception of matter that Hegel's totality of view is plainest. In the *Metaphysical Elements of Natural Science* Kant had given a ' construction ' of matter, an account of the conditions of its possibility. He resolved matter into two fundamental forces, one of repulsion, the other of at-

traction. The force of attraction was, according to Kant, the force by which matter 'occupied' space, that of repulsion the force by which it 'filled' space: the former was a penetrative force which could act at a distance, the latter acted as a surface-force between two parts in contact. Without the combination of these two independent forces matter was impossible; but while repulsion was of the very inner essence of matter, attraction, though necessary to it, was not contained in it. The value of such a conception was vast; it attributed to matter in itself, to the very nature of matter, forces which had been regarded as the accidental properties of bodies in their relation to each other. Yet it was still, Hegel thought, a one-sided conception, an abstraction;[1] it was in fact a formulation of the elements contained in the popular notion of matter. The force of repulsion corresponded to the resistance offered by bodies, the force of attraction to their consistence or cohesion; and the former being the more obvious and striking received the first position. These two forces were then left apart in independence of each other, in order to render matter possible by their combination. But Kant's argument was transparent enough to show the real connexion of the two. He proves the necessity of attraction because repulsion alone would expand matter beyond measure.[2] Such an expansive force of repulsion would act at a distance and therefore be attraction. This identity of attraction and repulsion in matter is in fact the truth of the conception of matter. Attraction is the secret of the coherence with one another of the units, which, for their independence, require other units to repel. The parts of matter are like the members of society, who are linked to each other and attracted by moral and social laws, which assign to each his *different* position in the system. Like such persons they might say to each other in familiar language, 'I love you, *therefore* keep your distance,' or, more abstractly, 'we repel each other and are different, the better to show our identity'.

(2) *Hegel's relation to Science.* Where Hegel comes into conflict with contemporary science, it is because of its want of that ideal concreteness of which Goethe had taught him the value. Instead of seeing things as wholes, it saw special characters and converted them into realities. It is thus he rejects the notion of pores and atoms. The idea of pores

[1] Hegel's brilliant criticism of Kant's construction of matter is to be found in *Logik*, i. (*Werke*, iii.), pp. 200-208.

[2] Kant, *Met. Anf. d. Naturwiss.* (Ed. Rosenkranz), p. 359.

(p. 190) was invented to explain the different specific gravities of different things occupying the same volumes. It was supposed that though the particles were alike in all bodies there were fewer particles and more pores in the lighter body. In the phenomenon of elasticity where the particles seemed to penetrate each other, it was supposed the body was compressed by the restriction of its pores. In asserting this negative element of pores, science, Hegel saw, was betraying its sense of the negativity inherent in matter; but instead of being the negation *of* matter involved in the nature of matter, these pores were a negative set up as a real existence *beside* matter, as actually existing where matter is not (p. 203). The same metaphysical assumption vitiated the conception of the atoms and the void. The atoms are not separate material existences; whenever we speak of material parts, we mean only quantitative differences, which not only do not preclude continuity but require it (p. 202). In elasticity, where the particles seem to take each others' place, we have exhibited in matter only the same contradiction of continuousness and punctuality which constitute motion. Elasticity as we saw is cohesion in motion. If then we regard atoms as individual things apart from their continuity, that is, their ideal character, it must be from motives of convenience. And here we find Hegel in agreement with a great modern exponent of the atomic doctrine, Lotze. In just the same way Hegel refuses to hear of the separation of light into pencils. They are a convenient supposition; to regard them as real would be as if we were to separate time into parts because we can speak of 'Cæsar's time' or 'my time' (pp. 140-1).

This metaphysic of independence, which science, with all its professed allegiance to experience, assumes without warranty from experience, had run to greater lengths in Hegel's day than in our own. In Hegel's time (if Hegel will forgive us the expression) they talked of caloric, the substance of heat, of latent caloric for specific heat, and of the electric fluid. We have given up, partly, this way of thinking; but in judging Hegel it is fair to remember that he helped to release science from the metaphysical superstitions which retarded its progress. By so doing, he was among those who gave science security for its advance. Even now it needs again and again to be reminded of the warning which he gave so forcibly against its ingrained habit of hypostatising qualities:

> "Donec longa dies, perfecto temporis orbe
> Concretam exemit labem."

Hegel and Newton. The noise of Hegel's attack upon Newton, once very audible, has been almost smiled away; yet the opposition rests exactly on the same grounds. Hegel is on the side of totality, Newton on the side of distinction and analysis. The world has taken the side of Newton and declared for analysis.

Let us begin with the theory of Colour (pp. 298 ff.). Colour appeared to Hegel (following what he called Goethe's great sense of nature) to be, in its real place in the world, the union of two things, the abstract identity of light, and the principle of darkness which is embodied in solid or coherent matter. There is therefore a real light and a real dark, which generate colour by their blending. Colour then is a later stage of nature than light, for it is possible only when matter is specified out of its abstract self, which is light, into its difference, so as to have specific gravity and cohesion. Colour then is the obscuration of light by the dark, and it is seen in experience only when there is an interruption of transparency. The prismatic colours are upon this theory caused by bringing light over the dark prism, which limits or interrupts the light, partly by its edges, partly by its varying thickness. Here again Hegel will have facts as they are, as a whole. Colour is not an element in light as it is on Newton's theory; colour is, as everyone knows, darker than light. How should light be composed of many darknesses? But wherever there is a difference of light and dark, there is the specification of light as colour, as round the edges of a candle-flame in the day-light. Newton, on the other hand, finding that light has broken through the prism into a spectrum of colours, declares these colours to be the components of light. In thus analysing light, he seemed to Hegel to be inverting the real order. He did not take into account the whole phenomenon. He neglected the existence of the prism itself, which, by its presence, conditioned the colour. The prism itself was the dark which imparted difference to this abstract light and coloured it.

But it was in the field of Mechanics that the chief assault took place. Hegel's complaint against the mathematicians was that they converted distinctions made for the purposes of analysis into existing facts. With this weapon he attacks first the proof of the law of fall, and then, with all the violence which he employed against those who differed from him, the Newtonian theory of the movements of the heavenly bodies. The law of falling bodies, to take the simpler case first, is that the distance traversed varies as the square of the time, $s = \frac{1}{2}gt^2$ where g is the acceleration, $\frac{1}{2}g$ the dis-

tance traversed in the first unit of time. So far as this can be proved mathematically, apart from experience, it must be as follows: that in uniformly accelerated motion velocity varies as the time, $v \propto t$; substitute for v, $\frac{s}{t}$; and $\therefore s \propto t^2$. But this purely mathematical substitution of $\frac{s}{t}$ for v is converted into the assumption that there are two forces acting upon the body, one of acceleration, which at each moment gives a new and equal impulse, the other a force of inertia of which the motion persists through one unit of time with the velocity with which it begins it. But in reality, in Hegel's view, fall is the motion which is immanent in body in virtue of its central tendency; being therefore free motion it must exhibit the character of the notion or idea of motion. Its components, therefore, space and time, must be not indifferent to each other, but so determined as to be identical. In ordinary uniform motion, which requires an external force to start it and then depends upon the inertia of the body, space and time have no real relation to each other: if time is to have such a real relation, then it must negate or destroy its own punctuality; only so can it become comparable with the indifference or externality of space. Time, then, must acquire the quality which it obtains by squaring,[1] by being reflected back on to itself, and so translated into externality. The space traversed, therefore, being proved to vary as the square of the time, the other factor in the formula is discovered by actual trial.

Hegel's attack on Newton's theory of the heavenly motions (pp. 97 ff.) is of the same character. Newton explained the heavenly motions by the combination of two separate forces, one an impressed centrifugal, the other an attractive or centripetal force. Hegel's objection to the separation of them is no less great than to Kant's assertion of the distinct independence of repulsion and attraction. Hegel does not deny the convenience of the distinction, but he accuses Newton of mistaking the directions into which the motion is resolved for real and actual forces, independent of each other (p. 102). But these two forces are not different and independent, but identical in the same way as repulsion and attraction, two elements of the total motion which involve each other: they are not combined externally, but exist only in their union.

[1] Compare *Logik*, i. (*Werke*, iii.), p. 389 (Das Potenzenverhältniss), and pp. 334 ff.

The laws of Kepler must therefore follow from the conception of the heavenly system as a whole. It would be too long to follow Hegel's proof of all three laws. The proof of the third law, that the squares of the times are proportional to the cubes of the mean distances, is at once the most difficult and most interesting by its contrast with the proof of the law of falling bodies. In the relatively free motion of fall, time and space were related as square and radix; but the heavenly motions are completely free, the image of the notion in the mechanical world. Each element is therefore itself a totality, and there is no accidentality in either. But time in the first power is a mere abstract number, so many minutes or seconds or years: to have quality it must be self-related, must be taken in the second power. Space on the other hand—in this case the linear radius vector of the planet, which is a measure of the arc traversed—must attain the dimensions which are adequate to the notion and be taken as a whole or in the third dimension, and therefore as the cube of the linear distance.

What a waste of ingenuity it seems, and with what naive effrontery Hegel attacks ways of thinking the most familiar to the human understanding! How, we are inclined to say, would Hegel have discovered the necessary determinations of space and time except he already knew what they were to be? The answer would be: It would certainly be impossible; but it was by actual experience that the philosophic notion of space and the planetary system was suggested. Kepler discovered the laws of the planetary motions and Newton subjected them to mathematical treatment. These distinctions have their value in mathematical analysis. It is for philosophy, Hegel might say, to accept these results, only to see them in a new way—whence Plato called philosophy a turning round to the light. It has to clear up the categories used in the sciences and to found its treatment upon the notion of the thing as it really is. And strange as Hegel's method of proof may seem, we cannot help seeing the value of his totality of view: he will not dissect nature, but will in each conception take it as a whole. How this may illumine familiar facts we can conclude from his treatment of the First Law of Motion. The motion contemplated by that law is not the motion of fall, but ordinary impressed motion, and it asserts that a body will persist in motion or rest till altered by some external cause. This is nothing but motion and rest regarded in their identity; if a body moves it moves, and if it rests it rests (p. 78). What if after all the sciences should turn out to be only provisional,

partial aspects of the truth, needing to be combined by philosophy as in a stereoscope, to give them solidity and reality?

After so much said in praise of Hegel, it is time to recur to a subject which was mentioned at the opening of the paper, and to indicate where Hegel has failed and what remains to do. Grant Hegel his initial abstract conception of nature, and his elaboration of it in detail, though it is full of difficulties, and often merely fantastic, yet is suggestive and luminous to a great degree. The difficulty lies in conceding the beginning. The central question which Natural Philosophy has to solve is the question, how does there come to be such a thing as nature, or in Hegel's own language, why did God determine to create the world? This question Hegel converted into the only form in which it is subject for philosophy—What is implied in the notion of nature, and what is its connexion with the divine idea? Whatever value be attached to Hegel's answer, he has done this great service, of indicating to what point the effort of philosophy must be directed. His own answer we have had already: nature is the Idea in its otherness, and therefore external to itself; and from this a step further is made to the complete indifference of nature and to its confusion of forms, its inability to preserve its types. This solution of the ultimate problem is plainly insufficient: the transition is unclear from the Idea to nature. Perhaps he was led to make it by his theological studies, and the profound impression which the conception of the Trinity left upon him. And certainly as illustrated by reference to the religious consciousness it receives a remarkable accession of clearness; even then it seems hardly more than the formulation of a fact, without a reason for it. And the illustration is not available for those who, sceptical as to the notion of the Trinity, wish to be shown the logical necessity of nature in its own right. Moreover, there is in Hegel's account of the relation of Idea and nature an ambiguity of language of which he sometimes seems to take advantage: the ambiguity of nature in the form of otherness, which may mean simply nature as other than the Idea, or nature as the Idea itself displaying otherness. The latter is certainly Hegel's real intention (cp. p. 23), but to the former is to be attributed something of the satisfaction we experience in reading Hegel,—that though nature is transparent to the Idea it is different from it.

But it is in its failure to explain the variety of nature that the chief defect of Hegel's conception consists. From the self-externality of nature we can conclude its falling asunder

into characters which "give the appearance of independent individuals"; but what reason is there that these individuals should vary from the common type? Hegel would answer that the confusion is of the essence of nature, and that philosophy has done its work when it has explained the existence of variety in general, and it is not called upon to deduce any individual thing, like the "pen of Herr Krug". And doubtless this answer would be sufficient if only from self-externality confusion could be inferred, but it is this which is in question. Hegel admits that every now and then nature in her wildest freaks surprises us with a glimpse of the Notion, but is not this intermingling of notional and accidental a fact to be explained? The economists of the older Ricardian school, who held that the laws of their science were abstract laws, were ready enough to modify them when a body of actual, complicated facts presented itself which allowed of scientific treatment. May it not be that the inability of philosophy to understand the great body of facts familiar to us as variety, modification, multiplicity, accident, is not due to the weakness of nature, but suggests a problem for philosophy itself?

VI.

Modern Theories. Perhaps it will help to enlighten Hegel's conception of nature if we consider it very briefly in its bearing upon some modern theories, which we may discuss in the spirit of Hegel when we cannot be guided by his actual words. Two views have been mentioned in the preceding pages, the doctrine of evolution and the various theories which endow the atoms and molecules with souls or mind.

(1) *Evolution.* The belief in special acts of creation which evolution has driven from the field would not have delayed Hegel long. Such a belief implies the merely mechanical conception of a God existing outside a world which also exists as an eternal uncreate. But nature is not external to the idea, but involved in it. If then it is taken as a whole, it is not created by a definite act before which it did not exist, for it shares the eternity of the idea and is timeless. Regarded as the process in time by which nature maintains its character, it is for ever created, or is a perpetual creation.[1] If it is taken in its parts, these certainly do begin to appear, but they are no more special creations for that than if they

[1] Cp. Einleitung, pp. 25-26.

could be shown to have descended from one original stock by gradual descent.

On the other hand, between the doctrine of evolution and Hegel's theory, how great the likeness seems to be! When Hegel speaks of nature as a process in which, with ever increasing specification of external characters, there is an ever completer involution or reflexion of these parts to a centre, we seem to anticipate the law of progress from indefinite incoherent homogeneity to definite coherent heterogeneity. Hegel's philosophy is in fact an evolution, called by the name of dialectic, which is the counterpart in philosophy of what evolution is in science. That theory he knew in the form which was given it by Treviranus and Lamarck, and he speaks of it slightingly. "This is called explaining and comprehending nature," he says, and he contrasts it unfavourably with the ancient doctrine of emanation, which had the merit of interpreting the less perfect forms of nature by the higher out of which they arose (pp. 34-5). We have already seen how different the two theories really are. Evolution is a history of how things in nature come to pass ; dialectic is the process by which one idea logically leads on to the higher idea which is implicit in it and is its truth. Evolution is a history of a process in time ; dialectic is a history of ideas which form a process not in time.

In the systematic theory of evolution it is sought to derive all existence by gradual steps from the two elements of matter and force, and though no proof has yet been given of the continuity of the process between inorganic and organic life, the theory is verified by the discovery of first principles common to mechanics, to physics, and to organic life. Hegel would have granted that similar laws do indeed hold in all departments of nature ; but he would have called such a discovery an external generalisation of reflection, and he might have added what he says of the doctrine of metamorphosis, "It is important to maintain identity, but equally important to maintain difference" (p. 35). The forms which realise these laws perform a different function, and it is this difference of function which philosophy has to explain. Life may be shown to be a complicated mechanism, yet it has a different function from mechanism, and it is therefore distinguished in idea and called by a different name. It is this difference of function which is the secret of the repugnance of the ordinary mind to accept the derivation of organic from inorganic nature.

The less comprehensive system deals with life only, and it may assert, as Prof. Huxley once did, that all forms of life

are derivable from protoplasm, or it may, like Darwin, simply show how various species are all derived by a process of selection from some few great types of ancestors. There would be something to say from Hegel's point of view to both these theories alike. But in regard to the first he would have a special complaint. To show that protoplasm is the basis of all life is not to show that life begins with formless or inorganic protoplasm. Such a view would confuse an element in the notion of life (perhaps he might have called protoplasm the substance or the element of self-identity in organisms) with the beginning of the history of life. To trace all animals from protozoa is intelligible; but in the protozoon the protoplasm is already an animal, and its nature can be understood or interpreted by the higher form of developed animal life.[1]

Some of the difficulties felt nowadays would not trouble Hegel. For instance, the impossibility of distinguishing plants and animals he would with his cool assumption have put down to the weakness of nature. He would rightly maintain that the functions of animal and vegetable life are different, and perhaps we might add for him, that even from the view of evolution the matter was of no great importance, for it is not at the summit of vegetable and the base of animal life that there is this coalescence of forms, but at the bases of both. But taking the case of animals only, he would maintain that there was only one type of animal, the notion of which philosophy had to explain, and the forms of animal life were but stages in which the type or idea of animal was realised to greater perfection (p. 653). This would be asserting that the nature (the logical or metaphysical nature) of animals was different from their history or genesis. And from this point of view he could perhaps enlighten the process of natural selection and regard it as the struggle of the idea of animal life with the externality or accidentality of its realisation in nature, and this is really his account of the relation between species and genus—the fundamental conception of zoology: the effort of the species to maintain their type appears in nature as their internecine struggle (p. 649). By such a view, the history of evolution would be maintained but with two advantages. In the first place the variations which in the doctrine of descent are so perplexing, at one time seeming required as the conditions of the selective process, at another depending for their existence on this process,

[1] For the substance of this paragraph I am indebted to Dr. J. H. Stirling's admirable pamphlet *As regards Protoplasm.*

would be explained as due to the accidentality of the genus as existing in nature. How insufficient such an explanation at present is, has been already indicated. But in the second place there would be a reason assigned for the survival of the fittest : a variety would survive and drive all its competitors from the field, because it was the vehicle of the animal type. Because of its future it would be able to enter into that reciprocal action of organism and environment, called adaptation, which is as much a selection by the former of the conditions under which it can develop, as the dictate of the latter which organisms it will suffer to develop.

A remark which Hegel makes in another connexion might be useful to some forms of the theory of evolution in the way of a caution. Hegel, in explaining his own conception of nature as that of a series of stages, adds that these stages are conceptions, and the progress is not therefore supposed to have occurred in nature in the actual history of development : because one animal has one chamber and its descendant two chambers in the heart, it is not to be supposed that the former actually acquired an extra chamber in addition to its original one (p. 34). What Hegel means by this is that a new idea or new realisation of an idea is a new fact, and it is not necessary that nature should go through the tedious process of gradual deviation from the older and approximation to the newer type, any more than it follows, because the larger idea of freedom under which we live in England is the outcome of the Greek idea of freedom, that the Greeks actually turned into Englishmen. This may or may not be true as a fact of natural history ; but the habit of turning a logical category into a fact of existence seems to be the defect of that form of evolution which maintains that the surviving variation was that lucky guess out of a number of other varieties which happened to suit its surroundings. Why should the lucky survivor have been among the guesses of nature at all ? Can we believe that if it had not been so some other stronger member would have survived and the new species changed its character : or must we suppose that the varieties would have exterminated each other in internecine struggle until a fresh set of varieties could be tried ? Finally, what guarantee have we that all possible varieties have been tried ? The fact before our view is that a species has been modified in some particular way, the rock pigeon into our domestic pigeon. Two interpretations of this fact are possible : we may describe the process as above (and doubtless we shall find in many cases that the struggle actually has taken place) ; or we may say

that the existence of a new species is the logical exclusion of all others that might have existed. This logical fact may have had its counterpart in many cases in the history of evolution, but not necessarily; just as to do a good act implies logically the rejection of a bad act, though the idea of actually doing the evil may never have entered the agent's mind. And moreover we shall ask for a reason why this particular modification should survive, for to say that it survived because it drove its competitors from the field is only to say that it survived because it survived. In the derivation of the pouter from the common pigeon a reason is to hand in the design of the breeder, in a conception of his mind. May the new species have survived because it was the bearer of a conception also, that conception which I have described as its function in the progressive order of nature?

(2) *Theories of the Animation of Matter.* There is a way of thinking very prevalent at the present day among eminent men of science who speculate upon the real character of the distinction of mind and matter: in one form or another they endeavour to animate nature with souls. We seem to be returning to the days of Thales, who believed that the world was full of gods. At one time it is the atoms which have souls, at another it is the cells (Haeckel). A very remarkable theory of the late Prof. Clifford regarded the molecules as possessed of mind-stuff, which when present in sufficient complexity, as in man, became consciousness. Hegel's assertion that nature is in reality Spirit, or that it is the Idea in the form of otherness, might seem to have a superficial likeness to such theories, but is in reality whole worlds apart. It is difficult to know exactly how Hegel would have treated these theories, for they were unknown to him. He was familiar, of course, with the doctrine of Leibniz, that matter was composed of substances called monads, possessing consciousness, each isolated from the rest, but by a marvellous pre-existing harmony reflecting the whole. But such a theory was a purely metaphysical one, and he treats it on logical grounds, finding in it the opposite and complementary defect to Spinoza's,[1] that it laid out the Absolute into isolated centres of individuality which could only be connected arbitrarily. In his theory of atoms endowed with souls Lotze corrected the mechanical character of Leibniz's theory, for the life of the atoms concentrated into what he called their souls was essentially a life of behaviour to one another, they existed only in their interconnexions. But this

[1] *Logik*, ii. (*Werke*, iv.), pp. 197-9.

theory which Lotze put forward in the *Microcosmus* he never perhaps really maintained as an atomic theory, and in his later system the atoms have ceased to be animated and have become in reality a metaphysical explanation of matter, centres of force, or rather points of intersection of the forces which constitute the relations between so-called 'atoms'. It is mentioned here, however, because it is a theory which naturally occurs to many minds. One objection Hegel would have had to it, that it erected mere conveniences of thinking into real existences, would be avoided by the doctrine that the cells or the molecules have souls, for their existence is beyond doubt. Clifford's theory of mind-stuff is a different one, and has difficulties of its own. Its merit is that it retains a distinction between organic nature and inorganic things whose mind-stuff neither feels nor thinks; and the same merit belongs to the view of Schopenhauer, the progenitor of many of these theories, who regards the different stages of nature as different ways in which the will objectifies itself. But the distinction, in the theory of mind-stuff, is not drawn out or regarded as anything more than a matter of complexity, and we need to be shown how a difference in degree of complexity can produce a difference of quality. Moreover, if mind-stuff neither feels nor thinks, it is difficult to see why it should be called mind-stuff, or how it can have anything to do with mind, and such an inference does certainly not follow from Prof. Clifford's premisses. This is pointed out in a new version of the animate theory of nature (that of Mr. Romanes in his Rede Lecture[1]), which very reasonably identifies matter (*i.e.*, motion) and mind, absolutely, and regards them as only different ways in which we conceive the same ultimate reality of mind. Subtle as this theory is, it is almost impossible to understand how if mind and matter are only 'relative to our modes of apprehension' the ultimate reality of mind should be apprehended by one of the modes in which it is apprehended.

What would have made all these theories repugnant to Hegel would probably be their mystical character; for mysticism is that mood in which the mind is lost in the bare contemplation of a unity into which all differences are submerged; and Hegel with his common sense would have been quick to see that, in their yearning to find a single explanation of the world and, if possible, to give it the elevation of the spirit, these theories were guilty of the

[1] *Contemporary Review*, July, 1885.

overhastiness of thought which is the first symptom of mysticism. If he had been writing upon them, he would not have been content to enumerate them as I have done, but would have shown their origin in some logical secret of the mind, which he would have expressed in a peculiar language that might have required the study of all three volumes of the *Logic* to understand. But in lecture he might have added, through much nervous coughing, a commentary something like this :—' We recognise what is of value in this way of thinking, that the spirit is at one with nature in spite of its apparent antagonism. The spirit must retain in its outside-of-itselfness its at-home-with-itself-ness (*muss in seinem Ausserseichseyn sein Beisichseyn erhalten*). But such theories wipe out (*verwischen*) all distinctions by *identifying* the lower with the higher. They thus commit the opposite mistake to those who, treating mind like a machine, interpret the higher by the lower. Hence the greater attractiveness of the former theory to the metaphysical instinct, since its measure is the spirit. It has the attractive force of innocence, for it does not perceive that it evades the very problem to be solved. The office of the philosophy of nature is to explain how it is that nature, which is penetrated by the spirit, can in the first place be different from spirit and next is by insensible stages overcome so as to be spirit. The spirit must come forth out of that which is not spirit. It is the mysticism of the reflective understanding to cut the knot by identifying spirit straight away with that which it is not.' And then with the harshness with which he often treated views that he did not like, he might have added :—' The understanding, unaware of the difference of the Idea, and finding nature rebellious against the spirit (*widerspenstig gegen den Geist*), must needs people it with ghosts '.

IV.—RESEARCH.

THE TIME TAKEN UP BY CEREBRAL OPERATIONS.[1]

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IV. *The Will-time.*[2]

In the experiments described in the foregoing section the motion to be made was always the same, and took up the same or about the same time. In this section the nature of the motion depends on the nature of the impression. The experiments about to be described will throw further light on the Perception-time, but we shall find in addition a variable Will- (or Motor) time. The perception-process, further, is different from what we considered in the foregoing section: then the observer expected a certain impression and saw whether it was present or not; in the experiments now to be described the observer, not awaiting a given impression, had to identify the one occurring. We might perhaps expect the perception to be more difficult and consequently to last longer in the latter case; the experiments however show that there can be no great difference in the time.

Experiments have been made in this direction by Donders[3] and others, they letting the observer lift his right hand if (for example) the light is red, the left if it is blue. Under Wundt's direction Merkel[4] extended this method, the observer lifting a different finger for each of ten different impressions. My first experiments (carried out in the winter 1883-4) were made with aid of electric lights, as above described, and were similar to those of previous experimenters; they gave as the time for distinguishing the colour and choosing the motion 120σ for B, 168 for C. Afterwards I used the gravity chronoscope, which enabled me to use daylight reflected from coloured surfaces. The current controlling the chronoscope was led through two keys (K and K′ Fig. 8, Mind 42), the observer holding one closed with his right, the other with his left hand. Two colours, say red and blue, were used in the same

[1] Concluded from Mind 42 and 43.

[2] I use the term 'Will-time' for lack of a better; in Germany 'Wahlzeit' is used. The motion is in most cases simply the result of the perception, and 'Association-time' might be used, were it not already taken up. 'Motor time' would perhaps best explain the process, but might cause confusion.

[3] *Arch. für Anat. u. Physiol.*, 1868.

[4] *Phil. Studien*, ii. 1.

series of experiments. If red appeared the observer lifted his right hand, if blue his left. The times are given in Table XXIX., the pairs of colours used being red and blue, and green and yellow. The reaction on red and on green was made with the right hand, on blue and on yellow with the left. Each number gives the average of six series (78 reactions in the uncorrected series).

TABLE XXIX.

		B				C			
		R	V	R′	V′	R	V	R′	V′
27.XI.—2.XII.	Red....	291	27	289	18	342	39	322	32
	Blue...	296	27	296	18	332	25	320	22
1.—5. XII.....	Green..	289	25	286	17	354	32	351	18
	Yellow	303	28	306	20	334	34	332	23
	A.....	295	27	294	18	340	32	331	24
	False...	9				3			

If from the average time for the four colours we substract the simple reaction-time, we find that it took B 145, C 190σ to distinguish the colour and find the proper motion. If these times are compared with those given in the preceding section (Table XVI.) we find that it took B 18, C 34σ longer to send out the proper and corresponding motion, than the command sending out a motion already determined. As I have already remarked, the perception-process is slightly different in the two cases; it being necessary in the first to see whether the light is red or blue, in the second only to recognise the red light. The results of the experiments show that there can scarcely be a difference in the times taken up by the two processes.

Quite a similar method was used with letters, the observer lifting his right hand if A was present, his left hand if Z. The numbers given in the Table are taken from six series.

TABLE XXX.

		B				C			
		R	V	R′	V′	R	V	R′	V′
4.—10. XII.....	A.....	328	27	324	18	379	42	370	30
	Z.....	339	23	336	15	382	34	379	22
	A.....	333	25	330	16	380	38	374	26
	False....	8				3			

The perception-time was thus for B 38, for C 40σ longer than for colours, and the will-time for B 11, for C 43σ longer for the choice between two motions than for the choice between making a motion and not making it.

In most of my experiments the motion corresponding to the impression was made with the organs of speech. I consider the time of special interest, as we are constantly reading a word, naming a colour, &c. In the experiments first to be considered two impressions were used; the observer did not know which was to come, but named the one occurring as soon as possible after seeing it. The motion was registered by means of the sound-key. These experiments are an extension of those given in Tables XVIII., XXII., XXVII. and XXVIII. There the observer made a determined motion (*i.e.*, named an expected object), here the motion had to be found after the impression had been distinguished. The relation between the processes is exactly the same as when the motion is made with the hand, the only difference being that we are constantly giving the name blue (for example) to a certain colour, whereas the association between a motion of the left hand and the colour blue must be made for the experiments. The impressions were taken in pairs as indicated in Table XXXI. 26 reactions were made as usual in a series, 13 on each of the two impressions.

These results in Table XXXI., when compared with those given in Tables XVIII., XXII., XXVII. and XXVIII., give the increased will-times shown in Table XXXII.

We have already seen that with the hand B needed less additional time than C to make the choice between two motions: the difference between the two observers is still more marked when the motions are made with the speech organs. Table XXXII. is further interesting in showing a difference between letters and words on the one hand, and colours and pictures on the other. The association between a printed letter or word and its name requires less time, and is consequently closer than between a colour or picture and its name. We can understand this, as the former association is being more continually practised; still we could not have foreseen it, as the association between a colour or object and its name is formed long before we learn how to read.

In the experiments now to be described there were not two objects and two corresponding motions, but a large number of objects; the one occurring to be named by the observer. In this case we determine the time it takes to see and name an impression, as a word or a colour. We have in the preceding section determined approximately the time taken to see an object: the difference between the two times gives us the time it takes to name the object. We shall first consider the time needed to see and name a letter. All the letters of the alphabet (capital letters of the largest size in the text of MIND) were used, each occurring once in the course of the series. After thirteen series had been

TABLE XXXI.

		B		C				B		C	
		R	R′	R	R′			R	R′	R	R′
17. II.	A.....	346	353	439	440	19. II.	Mind...	339	332	432	435
	Z.....	338	341	398	390		Life.....	294	298	406	401
19.....	B.....	366	366	415	420	21.....	Time....	296	305	379	382
	M.....	338	332	435	434		House...	285	291	368	363
21.....	E.....	326	321	384	383	24.....	Child...	355	350	410	415
	S.....	300	294	391	386		Year....	361	364	409	411
24.....	P.....	354	352	387	382		Truth...	303	297	392	390
	T.....	350	341	436	429		Name...	329	324	397	399
26.....	O.....	292	296	425	421	26.....	Light...	339	339	421	424
	L.....	323	308	412	408		Ship.....	294	298	396	395
	A.....	333	330	412	409			319	320	401	401
	AV.....	24	17	28	19			24	16	21	14
17. II.	Red.....	342	329	472	479	17. II.	Watch..	350	343	458	447
	Blue.....	317	322	441	447		Ship.....	376	387	424	422
19.....	Green...	303	298	484	474	19.....	Eye.....	369	367	495	488
	Yellow..	309	301	499	502		Hand...	346	333	455	445
21.....	Black...	347	354	386	382	21.....	Tree.....	340	336	455	459
	Pink....	298	305	394	376		Bird.....	343	339	451	447
24.....	Violet...	293	288	395	370	24.....	Fish.....	337	345	382	376
	Orange..	276	270	433	441		Leaf.....	333	339	430	424
26.....	Brown..	323	325	421	431	26.....	Hat.....	336	344	407	412
	Gray....	331	337	453	446		Shoe....	346	342	415	403
	A.....	314	313	438	435			348	347	437	432
	AV.....	27	18	41	36			31	20	44	31

TABLE XXXII.

	B	C
Letters.....	+15	+ 37
Words.....	− 2	+ 33
Colours.....	+24	+101
Pictures.....	+39	+ 74

made, the times for the separate letters were averaged together, so that we get the average of thirteen determinations on each letter; these series were corrected in the usual way, the three reactions varying most from the corrected average being dropped.

As the determinations for the same letter were made at different times we find the mean variation larger than usual. Table XXXIII. gives besides the results obtained with aid of the sound-key, series made with aid of a second observer. The first observer simply named the letter as quickly as possible, and the second observer made the reaction on the sound in the manner above described. Mr. Wolfe acted as second observer; in the Table I have subtracted his reaction-time on sound (150σ) and his mean variation (10σ).

TABLE XXXIII.

	Second Observer. 9.—30. I.						Sound-Key. 5.—19. II.					
	B			C			B			C		
	R	V	R′	R	V	R′	R	V	R′	R	V	R′
A	398	25	405	458	43	440	430	18	396	462	38	476
B	444	30	436	471	53	457	414	26	406	418	30	413
C	466	36	477	450	22	453	417	29	417	421	28	424
D	421	18	417	454	31	454	394	51	400	412	15	411
E	400	11	402	445	9	447	396	30	397	425	28	424
F	432	31	434	442	21	446	405	30	412	414	26	420
G	453	31	446	483	24	474	402	48	395	427	14	426
H	435	20	441	423	13	417	356	20	352	429	26	422
I	395	26	403	433	25	429	394	24	394	449	36	451
J	408	29	417	473	44	472	399	42	410	417	21	415
K	432	18	438	474	34	463	395	25	401	415	27	409
L	412	20	418	463	47	457	393	22	397	427	34	423
M	421	44	400	435	16	425	389	21	395	418	26	422
N	429	38	419	453	19	460	384	32	390	415	36	422
O	410	15	404	440	32	436	395	19	392	411	15	409
P	459	64	442	462	23	455	392	19	398	395	15	393
Q	446	28	461	480	22	469	428	34	438	413	22	418
R	422	20	435	462	20	469	385	28	389	443	18	446
S	431	33	431	471	38	479	391	27	394	412	22	410
T	425	25	432	446	34	454	398	36	390	414	18	409
U	428	22	434	461	47	471	391	22	396	439	14	441
V	463	32	450	465	29	461	383	20	378	428	26	423
W	421	42	405	485	16	481	353	26	364	435	24	432
X	465	46	471	452	25	460	381	31	388	405	29	412
Y	433	20	446	501	26	493	405	44	415	458	33	463
Z	431	12	432	499	37	507	393	19	392	426	22	421
A	430		431	461		459	395		396	424		424
AV		28	14		29	16		29	19		25	17

We thus see that it takes the observers about four-tenths of a second to see and name (*i.e.*, read) a letter. In this connexion

results I have already published[1] should be considered. I there determined by two distinct methods the time it takes to see and name letters. In most of the experiments, however, the observer while seeing and naming one letter could begin to see and name the one or ones following, so that the processes overlapped and the times became much shorter, namely 279σ for B, 224 for C. The times were still further shortened (becoming 96σ for B, 89 for C) when the letters made words. Why B's times should be longer than C's under these circumstances and shorter for a single letter I do not know. We found in the preceding section that it took B 119, C 116σ to perceive a letter. Supposing the perception-time to be the same in both cases, B needed 143σ, C 176 to find the name belonging to a letter. It should be added that in later series of experiments B's time became shorter. This method of determining the relative legibility of the several letters has an advantage over that in the previous section in so far as all the letters occur in the same series; but it is greatly complicated by the fact that the time of pronouncing the several letters may be different, as also the motion registered by the sound-key or second observer.

Series were made on the German capital letters with the results given in

TABLE XXXIV.

	B				C			
	R	V	R′	V′	R	V	R′	V′
14. II.....	423	36	420	23	554	63	538	32
16.....	446	30	439	18	573	58	549	33
18.....	377	30	382	20	531	60	519	38
23.....	363	34	357	23	464	30	461	21
25.....	369	31	389	24	507	33	510	20
A.....	396	32	397	22	526	49	515	29
F.....	3				1			

Numbers of one, two and three places were further used, and the time it takes to see and name them was determined. I did not take numbers of more than three places, fearing that they might not be seen and read as wholes. The results are given in Table XXXV.; from which it will be seen that it took B 33, C 38σ longer to see and name a number of two places than of one, and B 57, C 47σ longer for a number of three than of two places.[2]

[1] *Phil. Studien*, ii. 4; MIND 41.

[2] See Friedrich, *Phil. Studien*, i. 1.

TABLE XXXV.

	One place.				Two places.				Three places.			
	R	V	R′	V′	R	V	R′	V′	R	V	R′	V′
B												
30. III.....	318	14	317	9	357	26	358	16	413	39	417	20
2. IV.....	316	28	312	16	344	18	343	10	381	25	377	15
A.....	317	21	314	12	350	22	350	13	397	32	397	17
C												
30. III.....	390	28	397	18	424	32	423	22	476	31	503	24
2. IV.....	418	24	419	13	460	39	460	21	502	39	499	24
A.....	404	26	408	15	442	35	441	21	489	35	501	24

The time it takes to see and name a word was determined in the same way. Experiments were made on long and short English and German words, 26 of each sort being taken. In the case of the short words I made thirteen series, and found the time for the separate words as with the letters (Table XXXVII.). On the long words only five series (130 determinations) were made, and the times for the separate words were not calculated (Table XXXVI.).

TABLE XXXVI.

	English.				German.			
	B		C		B		C	
	R	R′	R	R′	R	R′	R	R′
14. II.....	493	484	451	450	419	409	501	498
16.....	481	475	490	488	451	454	533	527
18.....	447	440	451	457	424	418	507	500
23.....	391	383	430	434	379	370	433	432
25.....	391	378	431	431	381	376	473	475
A.....	441	432	451	452	411	405	489	486
AV.....	37	21	20	13	31	20	24	15

TABLE XXXVII.

	B		C			B		C	
5.—25. II	R	R′	R	R′	5.—26. II	R	R′	R	R′
Bond	393	397	407	405	Baum	367	367	423	423
Cause	395	394	423	428	Berg	382	385	414	417
Chair	398	390	415	411	Bild	366	365	428	424
Child	396	385	414	411	Brief	367	362	444	440
Death	397	399	410	405	Buch	377	381	441	443
Earth	405	414	409	406	Ding	380	379	432	435
Fact	358	355	389	385	Fluss	356	362	425	424
Faith	374	367	388	379	Form	350	354	407	409
Force	359	362	371	373	Gold	378	385	452	450
Head	366	368	367	362	Haus	326	322	405	403
House	366	367	385	388	Jahr	362	354	455	454
King	393	389	414	408	Kind	392	401	444	450
Life	388	394	430	424	Kunst	397	400	456	461
Light	396	394	418	414	Land	381	386	440	441
Love	386	375	409	404	Licht	363	379	441	441
Mind	421	426	422	418	Mann	396	403	447	439
Name	402	401	405	410	Nacht	401	392	451	447
Plan	395	390	388	396	Recht	333	327	446	445
Ship	380	384	385	390	Stadt	399	402	451	449
Slave	407	413	409	402	Stern	417	413	436	432
Song	385	387	387	389	Teil	375	370	430	424
Style	431	435	435	442	Tisch	381	385	446	449
Time	381	388	411	408	Traum	366	372	453	454
Truth	380	372	426	424	Volk	348	346	429	428
World	381	370	411	408	Welt	341	340	447	445
Year	393	384	415	412	Zahl	374	381	459	469
A	389	388	405	404		372	374	439	438
AV	30	20	21	14		25	18	22	14

An examination of the Tables shows that it took longer (in English B 52, C 46σ, in German B 39, C 46σ) to see and name a long than a short word. In both cases, of course, the beginning of the motion was registered; so the time occupied in pronouncing the word does not come into consideration. We further learn that it takes longer (for short words B 17, C 35σ, for long words B 30, C 38σ) to see and name a word in a foreign than in one's native language.[1] Comparing the results here reached with those given in the foregoing section, we find that to name a short word in his native language B needed 104, C 114σ. We find further that B named a word in 39, C in 62σ less time than a letter.

[1] See Cattell, *Phil. Studien*, ii. 4; MIND 41.

This is not surprising; we are constantly reading and using words, much more than letters; so the association between the concept and the name has become closer and takes place in less time.

The same method was used to determine the time it takes to see and name a colour. The ten colours taken occurred two to three times in a series, and the times for the separate colours (13 determinations) were afterwards averaged together. Table XXXVIII. gives the times as measured with aid of a second observer, and as directly registered. The order of the colours is that of the average time needed to name them, beginning with the colour most quickly named.

TABLE XXXVIII.

	Second Observer 9.—30. I.						Sound-Key. 5.—25. II.					
	B			C			B			C		
	R	V	R′	R	V	R′	R	V	R′	R	V	R′
Blue	551	47	530	633	40	643	443	56	438	518	34	515
Green	535	59	539	663	25	658	433	36	440	539	29	532
Red	503	37	491	638	46	658	492	57	504	576	61	559
Black	641	82	618	589	34	583	473	41	464	515	54	505
Yellow	574	33	563	660	17	656	481	70	490	588	54	575
Pink	614	105	615	714	62	699	503	75	485	614	92	578
Violet	621	52	613	688	73	659	552	56	558	603	32	611
Gray	568	57	586	860	119	841	447	63	426	714	91	697
Brown	641	104	630	978	130	990	532	83	515	625	85	603
Orange	669	56	659	910	122	876	584	96	566	718	76	730
A	592		584	733		726	494		489	601		591
AV		63	39		67	42		63	42		61	38

These results are interesting and were not foreseen. We found in the preceding section that it takes less time to perceive a colour than a letter or word; we now find that it takes comparatively a very long time (B 286, C 400σ) to find the name of the colour. This was especially the case at first and for certain colours. The colour was recognised with ease, but the name could only be found (more especially by C) with great difficulty. The colours most frequently seen and named in our daily life, red, yellow, green, blue and black, were named with greater ease and in decidedly less time (B 61, C 150σ) than the other five colours, pink, violet, orange, gray and brown. In the case of these latter colours the time was considerably shortened by practice.

The twenty-six pictures already described were in like manner seen and named (by B in German, by C in English), the times for the several pictures (13 determinations) being given in the following Table.

TABLE XXXIX.

	Picture of an	B		C			B		C	
		R	R′	R	R′		R	R′	R	R′
14.—26. II.	Anchor	489	463	552	535	Leaf	497	497	578	567
	Bird	515	507	569	566	Moon	496	504	588	587
	Bottle	489	479	572	561	Picture	475	486	587	574
	Candle	493	494	563	552	Scissors	447	453	558	558
	Chair	498	510	539	534	Ship	445	438	493	486
	Cross	485	470	586	591	Shoe	437	430	492	493
	Eye	496	476	500	503	Star	481	488	496	498
	Fish	462	454	497	487	Table	486	496	544	547
	Flower	495	479	568	586	Teapot	499	486	612	600
	Glass	480	466	585	596	Tree	457	449	524	517
	Hand	484	476	500	490	Umbrella	466	472	567	556
	Hat	419	415	454	446	Watch	461	462	567	562
	Hatchet	469	454	526	513					
	Key	477	467	561	560	A	477	472	545	541
						AV	46	30	40	25

We found in the foregoing section that pictures (and, we may assume, the objects themselves) can be seen in about the same time as colours; we now find that they can also be named in about the same time (by B in 251, by C in 278σ) as the colours most frequently used. The difference in time for the several pictures is interesting; both B and C named the picture of a hat in the shortest time; B required the longest time to name 'bird' and 'teapot,' C to name 'teapot' and 'moon'. It is an interesting fact that the picture of a chair can be recognised in less time than the word 'chair,' but that it takes over a tenth of a second longer to name it.

It will be useful to collect together certain of the results of these experiments. In the following Table I do not give to the thousandth of a second the averages of the determinations made, but what from the experiments seems to be the time it takes B and C to perceive and find the name of the objects we have been considering.

Table XL.

	B	C
Reaction-time for Light	150	150
Perception-time for Light	30	50
„ „ a Colour	90	100
„ „ a Picture	100	110
„ „ a Letter	120	120
„ „ a (short) Word	120	130
Will-time for Colours	280	400
„ Pictures	250	280
„ Letters	140	170
„ Words	100	110

We have thus found the time it takes us to see and name the objects which we spend a great part of our life in seeing and naming. We have not been dealing with artificial processes or things outside the circle of our natural interests. If in the course of evolution, as is probable, the molecular arrangement of the nervous system becomes more sensitive and delicately balanced, we may suppose that the times taken up by our mental processes become shorter, and we live so much the longer in the same number of years. It will therefore be of great interest to make experiments such as these on the lower races, as well as on persons of different age, sex, occupation, &c.

V. *The Influence of Attention, Fatigue and Practice on the Duration of Cerebral Operations.*

We have seen that while the time of a reaction is somewhat lengthened when the brain cannot so well prepare itself, it does not vary greatly with different degrees of Attention. I have made similar determinations for cerebral operations in which complications have been added to the simple reaction-time. I chose as typical cases the time it takes to see a white surface and show this by a motion of the hand, and the time it takes to see and name a letter. On the one hand the observer tried by great concentration of the attention and effort to react as quickly as possible; on the other hand the impression was produced at irregular intervals (three-fourths to fifteen seconds), so that the brain could not be held in a maximum state of readiness.

We find, from Table XLI., under the two degrees of attention or preparation a difference in the times of seeing and reacting on the white surface of 75σ for B, 15 for C; in the time of seeing and naming a letter 29σ for B, 25 for C.

TABLE XLI.

	Concentrated.				Distracted.			
	B		C		B		C	
	R	R′	R	R′	R	R′	R	R′
	White Surface.							
4. IV	192	194	236	234	333	321	273	278
5.	196	193	235	237	250	233	256	254
6.	186	191	230	231	244	234	234	229
7.	192	194	246	249	239	239	246	248
A	191	193	237	238	266	257	252	252
AV	13	6	13	10	38	23	16	9
	Letters.							
4. IV	334	335	395	398	387	388	441	442
	336	333	397	402	371	366	403	411
5.	335	337	404	410	373	377	432	435
6.	333	336	395	397	343	350	422	418
7.	331	333	410	408	340	339	427	426
A	334	335	400	403	363	364	425	426
AV	29	20	21	13	33	20	26	16

As I have given throughout this paper the dates on which the series were made and have not omitted any series, the results of continued Practice can be studied to advantage. B and C had previously had considerable practice in making simple reactions, but none in the other processes here considered. In the twenty series of reactions on light (Table I.) made during a period of six months, no reduction in the time is to be noticed. B's reaction-time was however shorter in 1884-5 than in 1883-4, as can be seen from Table VI., where his times, especially for light, are considerably longer than C's. I repeated at the close of the investigation the determinations made at the beginning in which the observer reacted on one of a number of colours, letters or words (the results are given in Tables XIX., XXIV., XXVII.), and found that the times had become shorter. I give the decrease in time.

	B	C
Colours	28	20
Letters	50	25
Words	54	35

As I have already mentioned, the time of naming the colours and pictures became shorter through practice. In some cases where the attention was distracted the brain accommodated itself to the changed conditions. It can be stated as a law that the times of cerebral operations become shorter as they become more automatic, but that a limit is reached beyond which further practice has little or no effect.

The investigation was concluded in April; in July, after an interval of three months during which no reactions were made, the times of the more important processes were again measured. The Table gives the results of five series of simple reactions on light and sound, of five series in which the observer showed by a motion of the hand that he had perceived a white surface, a letter and a colour, and of three series in which he perceived and named a letter, a word and a colour. The increase or decrease of the time is given in the column headed Df.

Table XLII.

	B					C				
	R	V	Df	R′	V′	R	V	Df	R′	V′
Light....	139	12	− 10	140	8	167	13	+ 17	167	9
Sound...	122	7	− 3	121	5	141	9	+ 16	139	6
White...	212	12	+ 1	211	6	254	13	+ 13	254	8
Letter...	305	22	+ 19	304	14	309	26	− 3	307	18
Colour...	258	22	− 1	256	17	289	24	− 4	284	15
Letter...	354	25	− 41	353	17	425	22	+ 1	428	14
Word....	331	17	− 58	330	12	410	20	+ 5	410	14
Colour...	402	33	− 92	400	23	609	71	+ 8	600	50

We now come to the effects of Fatigue. These, like the effects of attention, have been greatly overestimated, experimenters having made but few reactions in a series or at a sitting, fearing lest the observer should become fatigued and the times unduly long. In order to determine the influence of fatigue in successive reactions, I took thirty series of simple reactions on light and averaged all the first reactions (as also the mean variation of these reactions) together, all the second reactions, and so on through the twenty-six reactions of which the series was made up. In the same way I took two hundred series where the subject had to react (with the hand) after distinguishing an impression, and averaged all the first, second, &c. reactions together. The impressions were different in the different series, but of course the same throughout each series. In these series only thirteen determinations were made, but twenty-six mental processes took place, it being as fatiguing to see that the object was not there and keep from reacting, as to distinguish the object and react.

TABLE XLIII.

	B		C			B		C			B		C	
	R	V	R	V		R	V	R	V		R	V	R	V
I.....	136	18	139	15	XIV ...	147	9	151	10	I.....	277	30	306	29
II.....	146	14	155	13	XV.....	147	9	151	8	II.....	287	25	308	22
III....	144	11	150	9	XVI ...	149	12	148	8	III....	294	25	308	23
IV....	145	16	149	10	XVII..	152	12	154	12	IV....	298	22	316	28
V.....	143	9	149	10	XVIII.	152	8	152	10	V.....	297	25	314	23
VI....	142	13	149	13	XIX...	151	9	154	13	VI....	300	25	317	22
VII...	147	10	151	13	XX.....	148	10	151	12	VII...	292	21	318	24
VIII.	148	10	150	11	XXI...	150	13	146	9	VIII.	298	23	319	23
IX....	155	13	149	7	XXII..	152	12	150	10	IX....	299	20	319	23
X.....	145	9	151	9	XXIII.	147	8	148	12	X.....	297	23	322	24
XI....	143	13	147	9	XXIV.	152	13	144	10	XI....	297	23	319	22
XII...	154	14	147	13	XXV...	150	13	144	11	XII...	293	20	322	23
XIII.	153	16	152	11	XXVI.	150	15	150	10	XIII.	295	22	317	23
A.....						148	12	149	11		294	23	316	24

It will be seen that, though the difference is not great, the first reactions of a series are the shortest. It seems that in the first experiments the observer involuntarily strains his attention more, and so gives shorter times. This is the more marked the less automatic the process is; that is, with the white light than in the simple reaction, and in the case of B than in the case of C. The further course of the series shows no lengthening in the times or increase in the mean variation; so the brain is not considerably fatigued by making (or refraining from making) twenty-six reactions in succession,

In order further to investigate the effects of fatigue, I made extended series of experiments in which 1950 reactions were made in succession, the observer reacting almost continuously from early in the morning until late into the night. Three series (78 reactions) were made with light, then three series (39 determinations, but 78 mental processes) in which white light was distinguished and reacted on, then three series in which letters were seen and named, then two series in which associations were made, lastly three series of reactions on sound. This entire combination of series was repeated six times. The experiments were begun both days at 7·30 a.m. and were concluded in the case of C at 1·30 a.m., in the case of B at 11 p.m., short pauses being made for meals. One series of each variety was made the following morning and again in the evening; in the case of C a further set of series the day after. In the Table I give the average time and mean variation of the first set of series, afterwards the increase or decrease as compared with these. I do not take up space to give the corrected series, as they scarcely differ from the others.

TABLE XLIV.

		Light.		White Surface.		Letters.		Assoc.		Sound.	
		B									
31. III.	7·30 a.m....	157	12	198	21	344	25	733	103	139	9
	9·40 „	−1	−1	−5	−4	+10	+2	−98	−17	−3	−1
	1 p.m....	−14	−2	+9	−4	−7	+9	−59	−11	+11	+10
	2·50 „ ...	−10	−3	+9	+4	+4	+1	−2	−8	−7	−2
	6·55 „ ...	+1	−2	+34	−3	+12	+6	−81	−39	+3	+2
	8·50 „ ...	+5	+1	+20	−2	+37	+5	−228	+121	+10	+1
1. IV.	8·30 a.m....	+17	−2	−10	+1	+21	+9	+83	+2	−16	−2
	8 p.m....	+7	+3	+2	−5	+1	+10	+153	+68	−2	+5
		C									
26. III.	7·30 a.m....	156	10	247	12	429	23	827	125	144	13
	10·55 „ ...	+10	+3	−17	+4	−8	−4	+9	+8	+2	−3
	2·40 p.m....	+28	+5	+1	+9	+9	0	+12	+43	+15	+1
	7·20 „ ...	+19	+1	−10	+7	+19	−3	+58	+5	+15	+3
	9·20 „ ...	+33	+7	+6	+9	+37	+3	+163	+23	+19	−4
	11·40 „ ...	+34	+8	+2	+4	+30	0	+111	+10	+11	0
27. III.	8·30 a.m....	+27	+1	+6	+7	−3	+5	+19	+7	wanting	
	8 p.m....	+20	+5	−2	+2	+11	−3	−12	−41	+23	−2
28.	8·30 am.....	+25	+12	−1	+5	−5	−3	+42	+44	−6	−1

The first result to be noted from the Table is the very slight effects of fatigue; in no case is the time lengthened more than a couple of hundredths of a second, and the mean variation is but little increased. We reach the unexpected result that the processes which are the most automatic (naming the letters, and C's simple reaction-time) are the most affected by fatigue. The determinations made on the following day show that B had recovered from all fatigue; in the case of C, however, the brain substance concerned in the simple reaction seems to have been so far exhausted that his reaction-time remained abnormally long for two days.

I think these experiments show that it is possible to apply scientific methods to the investigation of mind. We have determined the times required for those processes which make up a great part of our mental life, and found these times to be constant; they are no more arbitrary, no less dependent on fixed laws than, for example, the velocity of light. I shall soon print an account of experiments going a step farther and determining the times of mental processes more removed from psycho-physical operations having to do with sensation and motion.

THE PERCEPTION OF SPACE BY DISPARATE SENSES.

By Joseph Jastrow,

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Introductory.

In the philosophic doctrine of "common sensibles"—the κοινὰ αἰσθητὰ of Aristotle—the general problem of the relation of space-conceptions to the senses which furnish them receives its first notice. Hobbes regards motion, rest, size and shape as notions common to sight and touch. Locke names as a distinct class of simple ideas those which owe their origin to two senses; thus space, extension, figure and motion are made common to sight and touch. Either sense gives an adequate idea of space; and the two ideas are in perfect agreement. Berkeley,[1] however, held that these two notions of space were distinct and heterogeneous; that they were regarded as one because they were constantly joined in experience. By a proposal of Molyneux the discussion was brought to an issue by testing the space-ideas of persons born blind and restored to sight by a surgical operation. Such persons are unable to identify the object now seen with the object formerly touched until this identification has been slowly learnt by experience. In this process touch is the teacher and sight the scholar.[2] Mr. T. K. Abbott[3] opposes Berkeley and regards each sense as having its own space-idea, which is little influenced by association with another. Prof. Stumpf[4] ascribes some space-relations to each of the five senses, and regards the resulting conception as essentially innate and single. A more recent writer, Dr. E. Montgomery,[5] supposes an organically evolved pre-established harmony between the several space-senses. He assumes a central organ which gives sensations their spacial value, and puts the matrix of tactile space in the optic thalami, of the knowledge of the position of our body in the cerebellum, of visual space in the corpora quadrigemina.

[1] "It is a mistake to suppose that we see and feel the same object."

[2] One patient did not realise the impressions of his new sense until "he perceived the sensations of what he saw in the points of his fingers as if he really touched the objects". Another was quite confused by not being able to combine sight and touch. "I cannot tell what I do see." "I am quite stupid."

[3] *Sight and Touch*, London, 1867.

[4] *Ueber den psychologischen Ursprung der Raumvorstellung*, Leipzig, 1873.

[5] "Space and Touch," in Mind 38, 39, 40.

Mr. Spencer and especially Prof. Bain lay most stress on the influence of the muscular sense in forming space conceptions.[1]

In order to approach the problem by experimental methods it will be necessary to define accurately such terms as sight, touch, motion. The following classification, though provisional and imperfect, will perhaps be found convenient. We can obtain the notion of extension—

I. By the stimulation of a definite portion of a sensitive surface,

(1) Of the retina (where the distance of the stimulating object must be inferred);

(2) Of the skin,

(*a*) By the application of a pair of points, leaving the intermediate skin unstimulated, or (*a'*) stimulating it by the application of a straight edge,

(*b*) By the motion of a point along the skin (see MIND 40, pp. 557 ff.);

[(*a*) and (*b*) may be contrasted as simultaneous and successive.]

II. By the perception of distance between two movable parts of the body, *e.g.*, between thumb and forefinger;

III. By the free motion of a limb, *e.g.*, the arm.[2]

The operations to be known as reproducing judgments by the *Eye*, the *Hand* and the *Arm*, are respectively—judging lengths by fixating the eyes upon them without motion of the eyeball, a form of I. (1); judging distances between thumb and forefinger, a form of II.; and judging distances by guiding a pencil over them with a free arm-movement, a form of III.

The problem was to compare the judgments of linear extension made by these three senses, and to determine their relative accuracy. The method consisted in presenting a definite length to one of these senses of the subject, who was then required to adjust a second length equal to the first by the use of the same or of another sense. The judgments were confined to lengths between 5 and 120 mm. The lower limit is set by the inconvenience of seeing, drawing and measuring such small lines; the upper by the greatest 'span' between thumb and forefinger, as

[1] For an account of this whole subject see *Common Sensibles* by Dr. Theodor Loewy, Leipzig, 1884; and *Sight and Touch* by T. K. Abbott.

[2] To this list ought perhaps to be added the perception of distance by a passive moving of the body, as in riding. (See Mach, *Bewegungs-Empfindungen.*) In all the above processes variations may be made. In I. (1) motion of the eyeball may be admitted or excluded; direct or indirect vision with one or with both eyes. In II. one part may be movable, the other not, as in estimating distances between the finger and forehead. In the variation used, the sensations are due to the tensing of muscles and skin.

well as by the longest line distinctly visible without motion of the eyeball. More direct methods of testing the relative fineness of these senses and of their memory for absolute lengths were also employed. In several of the operations the two sides of the body were involved, and it became necessary to study the effect of this circumstance.

Method and Apparatus.

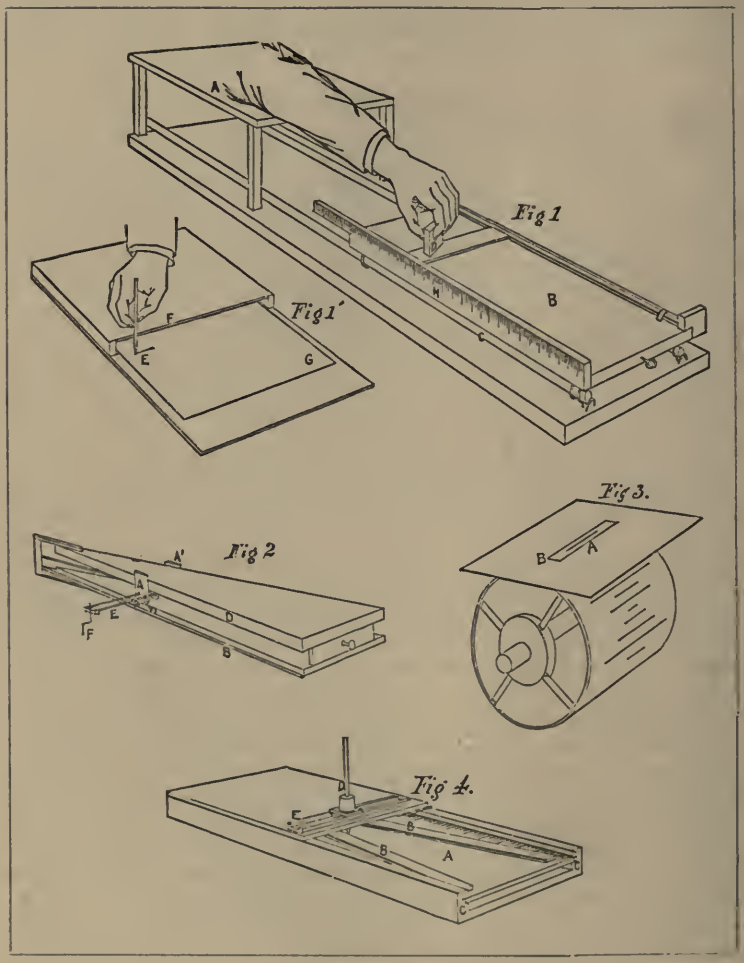
The sense which receives the linear impression is termed the *receiving sense*; that which expresses it by a length that is judged to be equal to the first, the *expressing sense.* If, for example, I look at a line and (without seeing my arm) draw a second line that seems equal in length to the one looked at, I am expressing in terms of motion an impression received in terms of sight, or reproducing sight by motion, the eye by the arm. Unless otherwise stated the operations are to be considered as simultaneous, the receiving and expressing senses acting at the same time, and the attention probably flitting from one to the other. The method and apparatus are equally suitable for successive judgments, which were made in some cases to obviate the use of both sides of the body. From a description of the method by which (1) an impression was received and (2) expressed by each sense, it will be easy to infer the method of reproducing any one of the three senses by itself or by any other.

A. *Receiving by the Eye.* A series of lines varying in length from 5 to 120 mm. were drawn upon cardboard and this attached to a horizontal cylinder (Fig. 3). Above this was a screen, through a slit in which any of the lines could be made to appear. The lines were seen perpendicularly to the axis of the eyes, and from above at an angle of about 30°.

B. *Receiving by the Hand.* Any one of a series of wooden blocks, 1½ inches wide and varying in length from 5 to 120 mm., with slips of glass cemented on each end to ensure equality of surface and temperature, was grasped in a convenient position between the thumb and forefinger of either hand. This gave a definite sensation of a length 'spanned'. To ensure regularity in the operation, the block (D, Fig. 1) was mounted on a stand, and the latter fastened in the grooves of the car (B, Fig. 1).

C. *Receiving by the Arm.* The apparatus used (Fig. 4) is called the Motion-triangle, because the amount of motion is regulated by the distance between two ledges set in the form of a triangle, the motion being parallel to its base. The hand grasps a cork carriage (D), through which the point of a glass pencil projects downward, to be stopped at each end of its course by the ledges (B B). Any desirable length of movement is obtained by simply sliding the board (A), upon which the ledges are fixed, in or out, along the grooves (C C), the length being indicated on a scale attached to the board. The base of the triangle is 6 inches

in length, its altitude 20 inches. The slide and the base of the carriage were made of glass and kept frictionless by the use of oil.



ILLUSTRATIONS OF THE APPARATUS.

Fig. 1 represents the method of receiving an impression by the Hand, in this case the left hand ; the impression thus received is expressed by the right hand Fig. 1′ at E, by a free movement of the arm. The eyes of course are closed. A, the platform upon which the arm rests ; B, the sliding car, moving upon glass tubes C, and carrying the block D mounted on a stand. The pencil, guided along the straight edge F, draws a line E on paper tacked upon a board G which can be moved under F.

Fig. 2. The Span-triangle, to be placed upon the car B (Fig. 1). A, A′, carriages moving on rollers along the rods B and against the glass edge D ; E, a pair of rods projecting through the carriages A A′ and guided in the centre by a wire, seen near the apex ; F, a bent wire recording on the scale H (Fig. 1).

Fig. 3. For receiving by the Eye. By revolving the cylinder the lines are seen at A, through the slit B in the screen.

Fig. 4. The Motion-triangle. A, a board movable along the grooves C and C, and carrying a scale ; B B, two wooden ledges set in the form of a triangle ; D, the carriage moving along the glass slide E, and its projecting point striking against B B, seen below.

A′. *Expressing by the Eye.* Parallel to the base of a triangle (also 6 by 20 inches) were drawn a series of lines each differing in length from its neighbour by 1 mm. Each line could be referred to by a letter marked at one end; and the operation consisted in selecting a line that seemed equal to the impression received. This may be called the Sight-triangle. As this method proved to be somewhat difficult and restricted the judgment, especially in the case of short lengths, it was supplemented by marking off on ruled paper as much of the ruled line as seemed equal to the impression received. The hand did not move over the line, but indicated by a stroke the desired length.

B′. *Expressing by the Hand.* The apparatus (Fig. 2) is called the Span-triangle, and like the others is 6 by 20 inches in size. It consists of an upper part (D) and a lower part (B), joined at the apex and at the base, with an interval of about $\frac{3}{4}$ inch between the two. A pair of brass carriages (A, A′), triangular in shape and complementary to half of the large triangle, move on rollers along the rods (B) and the glass slip (D). A pair of rods (E) projecting on either side (through the interval between the two parts) is guided by a wire stretched from the apex to the middle of the base of the triangle, and keeps the carriages parallel and opposite to one another. An indicator (F) records the distance between the carriages at any point, upon a scale (H, Fig. 1). The carriages are grasped between the thumb and forefinger and adjusted by an easy motion up or down.

C′. *Expressing by the Arm.* A duplicate of the Motion-triangle above described is used, and, when the subject receives with one arm and expresses with the other, is regulated by the operator at the command of the subject. A handier method (especially applicable in successive judgments) is shown in Fig. 1′. It consists in drawing, with eyes closed, a line (E) along a straight edge (F). By moving the board upon which the paper is attached after each line, a series of lines is obtained.

Results.

In judging that a length perceived by the Eye is equal to another length perceived either by the Eye, Hand or Arm, there will be an error. The problem consists in tracing the nature and extent of this error.

I. When the receiving and expressing senses are the same,

(1) *If the Eye is both receiving and expressing sense, small lengths will be underestimated, and large lengths exaggerated*; the point at which no error is made being at about 38 mm. [Fig. 5, 1-1];

(2) *If the Hand is both receiving and expressing sense, small lengths will be exaggerated, and large lengths underestimated*, the 'indifference-point' being at about 50 mm. [Fig. 5, 2-2];

(3) *If the Arm is both receiving and expressing sense, all lengths* (within the limits of the experiments) *will be exaggerated* [Fig. 5, 3-3].

These results are expressed graphically by the three curves in the centre of Fig. 5.

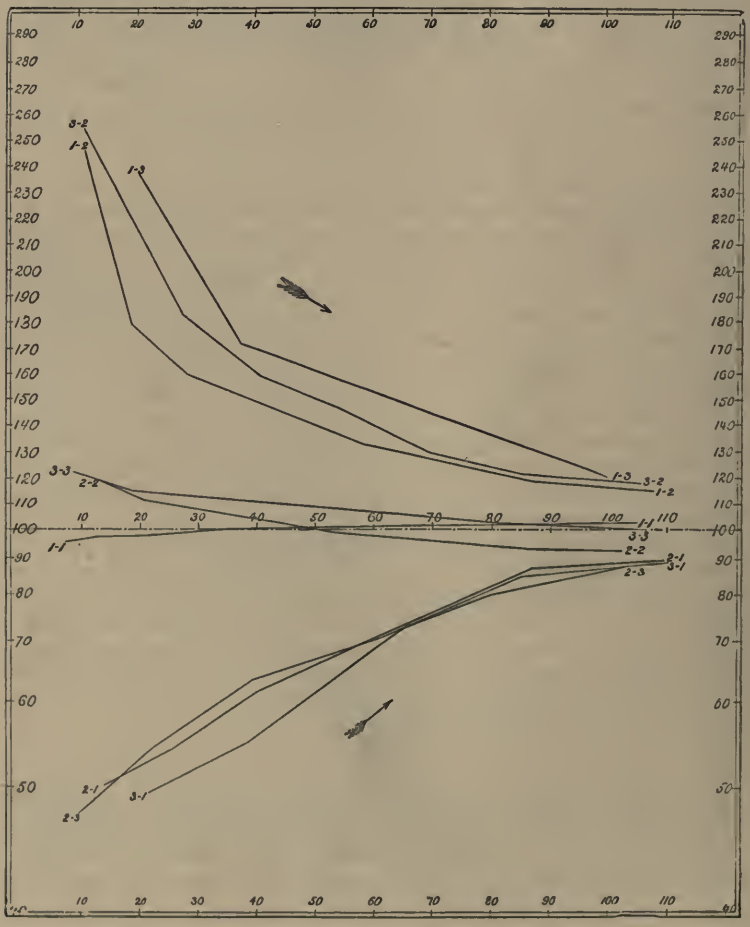


FIG. 5. CURVES SHOWING THE ERRORS IN REPRODUCING SPACE-IMPRESSIONS.

The error is measured by ordinates above or below the broken central line, in percentages as indicated at the sides of the diagram.

The abscissæ measure in millimetres the original length to be reproduced, as indicated upon the broken line as well as upon the top and bottom. The curves follow the direction of the arrows.

1 always indicates the Eye, 2 the Hand, and 3 the Arm.

1-1, the curve for receiving the impression and expressing the judgment by the Eye.

2-2, the curve for receiving the impression and expressing the judgment by the Hand.

3-3, the curve for receiving the impression and expressing the judgment by the Arm.

2-1, the curve for receiving by the Hand and expressing by the Eye.

3-1,	„	„	the Arm	„	the Eye.
1-2,	„	„	the Eye	„	the Hand.
3-2,	„	„	the Arm	„	the Hand.
1-3,	„	„	the Eye	„	the Arm.
2-3,	„	„	the Hand	„	the Arm.

Each curve represents the average of experiments upon from three to seven individuals and the result of about 1800 observations.

The distinguishing characteristic of a curve is its direction; whether it proceeds from below the line upward, or from above the line downward. Such features as the extent of the error, or the point at which, if at all, the central line is crossed, show great individual differences. It is only when (as in the above described curves) the absolute error is small throughout, that individual differences appear as curves of opposite direction. The average error in the Eye-judgments was only 3 per cent., in the Hand-judgments 9 per cent., in the Arm-judgments 10 per cent.

When either the Hand or the Arm acted as both the receiving and expressing sense, the two sides of the body were used at once. What now would be the effect of interchanging the hands, making the receiving hand in the first case the expressing hand in the second? If it were only to alter slightly the extent of the error, it would indicate an accidental variation or a slight superiority of one hand. If, however, this change were to reverse the former result, it would indicate a lack of symmetrical correlation of the two sides of the body. In point of fact the latter is the result. When the *right* Hand is the *expressing* hand, the curve agrees with the curve 2-2 (Fig. 5); when the *left* hand is the expressing hand, the curve is *irregular* and *below* the central line. When the *left* Arm is the *expressing* arm, the curve agrees with the curve 3-3 (Fig. 5); when the *right* arm is the expressing arm, the curve is *irregular* and *below* the line. The next question is, Which of these two curves is to be preferred? It is answered thus: If instead of using both hands simultaneously, the same hand were used successively, and it were found that the little difference resulted from interchanging the hands (or arms), the curve for that hand

(or arm) would be preferred which agreed with the results of the successive judgments. By this mode of reasoning, the curves for the *right hand* and the *left arm* as the expressing senses were preferred.[1] Another method of showing that the phenomenon is due to bilateral asymmetry of function, is to draw simultaneously lines with each hand, the attempt being to make the lines equal. Here as before the left arm draws the larger line, the error being slightly less when the lines are drawn towards than away from the body.

The conclusions above discussed may be summarised thus :—

When the same sense acts as the receiving and the expressing sense, the error is small (and the process easy). In operations involving the use of both sides of the body, an interchange of the function of the two sides reverses the results ; when one hand alone is used in successive judgments, no such reversal takes place. The preferred Hand in span-sensations is the right; the preferred Arm in motion the left. The error of the Eye is less than that of the Hand ; the error of the Hand slightly less than that of the Arm.

II. When the receiving and expressing senses are different,

(1) *If the Eye is the expressing sense, and*
(a) *the Hand the receiving sense,*

All lengths are greatly underestimated, the error decreasing as the length increases [Fig. 5, 2-1]. That is, if you attempt to mark off or select a length by the eye equal to the distance between your thumb and forefinger, the selected lengths will be too short; in case of small distances only about one-half the real length. The lines thus selected varied from about 48 per cent. to 88 per cent. of the true distance between thumb and forefinger the average being about 65 per cent.[2]

If the Eye is the expressing sense, and
(b) *the Arm the receiving sense,*

All lengths are greatly underestimated, the error decreasing as the length increases [Fig. 5, 3-1]. That is, the attempt to mark off or select by sight a line equal to the space moved over by a free arm movement will result in selecting or marking off much

[1] The successive judgments were made by the Hand, by first grasping a block between thumb and forefinger and then adjusting the carriages of the Span-triangle, to match the block felt ; by the Arm, by attempting to draw (with eyes closed) the second of a pair of lines equal to the first, using the apparatus shown in Fig. 1′. In both these cases it makes little difference which hand or arm is used. All those experimented upon were right-handed.

[2] The lines were selected on the Sight-triangle or marked off on ruled paper, the impression being received by the right or the left hand. By these four methods a length of 15mm. was reproduced by lines 46 per cent., 36 per cent., 37 per cent. and 34 per cent. of the real length ; of 110 mm. by lines 84 per cent., 80 per cent., 87 per cent. and 88 per cent. of the real length. The close correspondence of these numbers is an indication of the regularity of the processes involved.

too short a line. The error varies within about the same limits as when the hand acts as the receiving sense.

By combining the two conclusions we see that—

If the Eye is the expressing sense all lengths are greatly underestimated, the error decreasing as the length increases. This is expressed on Fig. 5 by the fact that the two curves 2-1 and 3-1 are close together throughout.

(2) *If the Hand is the expressing sense, and*
(a) *the Eye the receiving sense,*

All lengths are greatly exaggerated, the error decreasing as the length increases [Fig. 5, 1-2]. That is, the attempt to hold the thumb and forefinger as far apart as the length of a line seen by the eye will result in holding the thumb and forefinger too far apart, the distance being more than double the true length in case of short lines. On the average, the lines were reproduced by distances 144 per cent. of their true length.

If the Hand is the expressing sense, and
(b) *the Arm the receiving sense,*

All lengths are greatly exaggerated, the error decreasing as the length increases [Fig. 5, 3-2]. That is, the attempt to hold the thumb and forefinger as far apart as the space moved over by a free arm movement (of the other arm) will result in holding the thumb and forefinger too far apart.[1] On the average, movements were reproduced by distances 168 per cent. of their true length.

By combining the two results last obtained we see that—

If the Hand is the expressing sense, all lengths are greatly exaggerated, the error decreasing as the length increases. This is expressed on Fig. 5 by the close correspondence of the two curves 1-2 and 3-2.

(3) *If the Arm is the expressing sense, and*
(a) *the Eye the receiving sense,*

All lengths are greatly exaggerated, the error decreasing as the length increases [Fig. 5, 1-3]. That is, the attempt to move over a space equal to the length of a line seen by the eye will result in moving over much too large a space. On the average, a line will be reproduced by a space 185 per cent. of its true length.

If the Arm is the expressing sense, and
(b) *the Hand the receiving sense,*

All lengths are greatly underestimated, the error decreasing as the length increases [Fig. 5, 2-3]. That is, the attempt to move over a space equal to the distance between thumb and forefinger (of the other hand) will result in moving over much too

[1] It is to be noted that although both sides of the body are involved in this operation, it makes little difference whether the right side acts as the receiving sense and the left as the expressing sense, or *vice versâ*.

small a space.[1] On the average, the distance between thumb and forefinger will be reproduced by a movement 68 per cent. of its true length. It is not possible to combine the last two statements, for the substitution of Eye for Hand as the receiving sense changes the error from an underestimation to an exaggeration.

A comparison of the conclusions thus far reached will bring to light a few general laws applicable to all three senses.

A. The error decreases as the length (to be reproduced) increases.

This means that (within the limits of the lengths experimented upon) a larger length is reproduced more accurately than a smaller one. It is expressed in Fig 5 by the fact that the direction of all the curves is towards the central line, following one or other of the arrows.[2]

B. If reproducing one sense by another results in an exaggeration (or underestimation), then reproducing the second sense by the first will result in an underestimation (or exaggeration) to about the same extent.

In attempting to move over a space equal to the length of a line seen I move over much too large a space, and when I select by sight a line equal to a space moved over by my arm I select much too short a line. Thus the curves expressing the space-relations of the three senses are grouped in pairs [Fig. 5, 1-2 and 2-1; 1-3 and 3-1; 3-2 and 2-3], one of each pair being above the central line, the other (in which the receiving and expressing senses have changed places) below it. This law confirms one's *à priori* expectations on the assumption that the processes involved are rational and regular; for to say that the eye 'draws' a smaller line than the arm is the same as to say that the arm draws a larger line than the eye. A result of this law is that in the three pairs of operations, Eye to Hand and Hand to Eye (1-2 and 2-1), Eye to Arm and Arm to Eye (1-3 and 3-1), Arm to Hand and Hand to Arm (3-2 and 2-3), the mean proportional[3] between the exaggerated reproduction by the first and the underestimated reproduction by the second of each pair of operations will give

[1] The foot-note on page 547 is equally applicable here.

[2] The law is applicable to the curves in which the receiving and expressing senses are the same, if we measure the error by ordinates upon a horizontal line drawn through the origin of the curve.

[3] Not the 'mean' but the 'mean proportional,' because the same absolute error is a greater error as an underestimation than as an exaggeration. Doubling a length is as far from the truth as halving it; but there is an error of 100 per cent. in the first case and of 50 per cent. in the second. The two appear alike when we compare the exaggerated reproduction with the reciprocal of the underestimated reproduction. To make the curves above and below the central line (Fig. 5) absolutely comparable as they stand, the percentages below the central line are plotted in terms of their

about the real length. If (1) without looking I take a book between my thumb and forefinger and mark off by sight a length that seems equal to the thickness felt, and then (2) looking at the thickness of the book, measure the distance between thumb and forefinger that seems equal to the thickness as seen, the mean proportional between the two results will give about the true thickness of the book.

C. A third rather peculiar law remains to be noticed. The processes involved in the above-described experiments can be represented thus: A length presented to the receiving sense makes a certain impression on my brain-centre; the problem then is to reproduce the objective stimulation which shall give me an equivalent sensation. The two operations being simultaneous, the sensations can be compared and the judgment corrected until they agree. When the receiving and expressing senses are the same, the comparison is between homogeneous sensations, involving one brain-centre; the operation is easy and the error small. When the expressing sense differs from the receiving sense, heterogeneous sensations must be compared, involving two brain-centres; a difficult operation with a large error. The large error seems to be due to a looseness of association between heterogeneous space-centres; it is a path of high resistance. Why this error is in the direction in which it is, and not in the opposite direction, depends on some fundamental relation of the senses involved, still to be discovered. For the present, the fact that the same objective spacial stimulation has a different value for the several space-senses is to be emphasised. Perhaps the following method will shed some little light on the question. Which of the following changes can be made with a minimum alteration of the results: (1) Substituting one receiving sense for another, leaving the expressing sense unchanged? Or (2) substituting one expressing sense for another, leaving the receiving sense unchanged? If the first, then the error derives its characteristic more from the expressing sense; if the second, from the receiving sense. In point of fact the generalisations already formulated show that the expressing sense gives the characteristic properties to the curve, for it was seen that with the Eye as expressing sense an underestimation, with the Hand or Arm as expressing sense an exaggeration takes place, it being immaterial whether the eye, the hand or the arm acts as receiving sense. As a peculiar exception [1]

reciprocals. The average reproductions of the exaggerating curves are 185 per cent., 168 per cent. and 144 per cent. respectively; of the underestimating curves 68 per cent., 65 per cent. and 59 per cent., whose reciprocals are 147 per cent., 154 per cent. and 170 per cent. This justifies the clause "to about the same extent" in Law B.

[1] The peculiarity of the exception is that it is a necessary one. Law B requires the curves for reproducing the arm by the hand and the hand by the arm to be on opposite sides of the central line, while Law C requires them to be on the same side; *i.e.*, whenever expressing by one sense causes the

to this rule we found that with the Arm as expressing sense and the Eye as receiving sense, an exaggeration, but with the Hand as receiving sense, an underestimation takes place.

Another mode of experimentation touches upon the problem in a somewhat different manner. The subject, instead of having an impression presented to one of his senses, attempts to express his mental recollection of some absolute measure (*e.g.*, a certain number of inches), by selecting a line, a distance between thumb and forefinger, or a space moved over by the arm, that seems equal to the mental recollection. In so doing the eye 'creates' its inches about 10 per cent. too short; the hand and arm about 20 per cent. too long in small lengths, the excess decreasing as the length increases. The smallness[1] of these errors seems best accounted for by assuming that in 'creating' inches by the Eye I use the recollection of my visual inch; by the thumb and forefinger, of my span-inch; by the arm, of my motion-inch. The operation would closely resemble that in which the receiving and expressing senses are the same; accordingly, when the sense used is the Eye we should have an underestimation, when the Hand or Arm an exaggeration, which is exactly the case. Our conclusions then are (1) *that the memory for absolute measurements is not quite accurate, the order of accuracy being Sight, Span, Motion;* (2) *that the operation probably consists in matching the reproduction with the homogeneous mental recollection;* (3) *that the Visual inch is too short, the Span- and Motion-inch too long.* These conclusions evidently favour the point of view of law C.

D. Finally, a comparison of the error in reproducing by the same and by a different sense leads to the very important conclusion that the former operation is an accurate and easy one, the latter an inaccurate and difficult one. The difficulty manifests itself as a feeling of discomforting uncertainty and lack of confidence in one's judgments, and a great susceptibility to fatigue. The connexion between two senses seems to be a loose one.

Relative Accuracy of the Senses.

Three indications of the relative accuracy of the three senses have already been given. (1) When the receiving and expressing

same kind of error as expressing by another, this contradiction between the two laws must take place. In this case Law C is violated and Law B maintained.

[1] A further indication of the regularity of these operations was obtained by requiring the subject to judge in inches the lengths of certain lines, distances and spaces by Sight, Span and Motion. If in expressing inches there is an exaggeration (or underestimation), then in judging inches there must be an underestimation (or exaggeration); and this is really the case. To show the effect of practice in one's knowledge of absolute lengths, some carpenters were tested and found to give more accurate and confident judgments than others. This superiority was confined entirely to Sight.

senses are the same, the error of the Eye is smaller than that of the Hand, and of the latter slightly smaller than that of the Arm; (2) when the receiving and expressing senses are different, the same holds true, if we regard the expressing sense as the characteristic one; (3) in expressing and judging inches, the order of accuracy is also Eye, Hand, Arm; the two last being nearly alike.

Prof. Bowditch and Mr. Southard[1] have compared Sight and the Motion-sense by placing a small disc upon a table and requiring the subject (with eyes closed) to guide a pencil to the disc. In one set of experiments the knowledge of the position of the disc was obtained by glancing at it, in another set by placing it in position with the hand. They find that the error, *i.e.*, the distance between the disc and the point upon which the pencil was placed, is least when the eye in direct vision is the sense used, and greatest when the opposite hand is used, it being intermediate if the disc and the pencil be placed by the same hand. The effect of the time-interval between placing and finding the disc is about the same in each method, the most accurate adjustments being made with an interval of two seconds.

The following experiments were designed to obtain the ratio of erroneous judgments made in deciding which of two slightly different lengths was the longer, when the decision was made by the eye, by the hand and by the arm. For testing Sight two groups of lines, with three lines in each group, were drawn and fastened to the cylinder (Fig. 3) to be viewed successively through the slit in the screen. The lengths of the first lines in the groups were 25 mm. and 100 mm. respectively, the second differing from the first by $\frac{1}{50}$ and the third by $\frac{1}{100}$ of the entire length. For testing the sense of Span two precisely similar groups of blocks were constructed and mounted on the car (B, Fig. 1), to be felt successively by thumb and forefinger. For testing the Motion-sense a delicate Motion-triangle was devised and the points recorded on the scale at which the desired differences were reached. An observation was made as follows:—For example, we are testing the eye, using the larger lengths (100 mm.) and a difference of $\frac{1}{50}$. The subject then either (1) sees a line 100 mm. long, then one 98 mm. long, and again one 100 mm. long, or (2) sees a line 98 mm. long, then one 100 mm. long, and again one 98 mm. long. The first and third lengths are always alike, the middle length is either shorter as in the first case, or longer as in the second, and the subject is to decide whether the middle length was shorter or longer. By having two changes—one an increase, the other a decrease—in each experiment, the well-known difference in sensibility for these two kinds of change is avoided; while the chance of a correct answer is increased. In addition to its correctness or falsity, the confidence felt in the judgment given was recorded on a scale of 4 degrees, in which 3 denoted

[1] *Journal of Physiology*, iii. 3.

a feeling of certainty; 0, no decided inclination for one answer over its opposite; and between the two 1 and 2 naturally found their places.[1] In the following Table, the errors in a set of 10 judgments and the average confidence are recorded for each sense and for each relative difference distinguishing the small lengths from the large ones. Experiments were made on four individuals and include about 1000 judgments.

Sense.	Absolute Length : 100 mm.				Absolute Length : 25 mm.			
	Difference of $\frac{1}{30}$.		Difference of $\frac{1}{100}$.		Difference of $\frac{1}{30}$.		Difference of $\frac{1}{100}$.	
	No. of errors in 10.	Av. confidence.	No. of errors in 10.	Av. confidence.	No. of errors in 10.	Av. confidence.	No. of errors in 10.	Av. confidence.
Eye.....	·75	1·6	2·6	·60	·7	2·1	1·8	1·1
Hand.....	1.3	·58	3·5	·27	1·2	·65	3·3	·2
Arm.....	3·2	·19	...	...	3·8	·17	...	...

The order of differential sensibility of the three senses is Sight, Span, Motion. It is to be noted how regularly the confidence rises as the number of errors decreases. This indicates a distinct feeling of the superior sensibility of Sight over Span,[2] of Span over Motion, as well as a distinction between differences of $\frac{1}{30}$ and of $\frac{1}{100}$. As the errors for lengths of 100 mm. differ little from those for lengths of 25 mm., Weber's law may be applicable to these kinds of sensibility.

Some experiments were made to test the accuracy of the memory for Sight- and Span-impressions. At an early stage of the experiments, when sight was reproduced by span and *vice versâ*, only two lengths were used, one 20 mm., the other 100 mm. long. The blocks were repeatedly reproduced by the eye, and the lines by the thumb and forefinger. Before and after each day's sitting, the subject was required to mark off from memory lines of the two lengths and to guide his thumb and forefinger to the accustomed distances on the Span-triangle. In both cases the memory[3] is extremely accurate and is almost as faultless after

[1] This method was developed in connexion with experiments made by Mr. C. S. Peirce and the writer on "Small Differences of Sensation" (*Memoirs of the National Academy*, vol. iii.), to which the reader is referred for details.

[2] In judging differences with the thumb and forefinger, each hand was tested separately (the mean of the two results being given in the Table), with the result that the left hand made fewer errors. Those experimented upon were right-handed. The right arm alone was tested.

[3] Reproduction by memory is evidently analogous to expressing by inches; the accuracy of these memories favours conclusion (2) on p. 549.

the lapse of a few days as of a few minutes. The Eye-memory is slightly superior to the hand-memory; the arm was not tested. The superiority of sight finds a popular expression in such a phrase as "seeing is believing". The observation of Weber that, in writing letters or imagining them set on the chest, they are naturally inverted, being placed so as to be read by the eye, shows how unconsciously sight rules the other senses. An ingenious experiment of Helmholtz (*Phys. Optik*, p. 601) shows that sight must frequently be corrected by motor judgments. Looking through prismatic spectacles he attempted to guide his finger to an object, and naturally went far off to one side of it. Having learnt to allow for this by practice or by following the finger to the object, he found that the other hand had acquired this facility at the same time, indicating that sight alone was deceived. Children, in whom the co-ordination of sight and touch is imperfect, can guide things to the mouth more readily than to a seen object.

Experiments upon the Blind.

By experimenting upon the blind, in whose education sight—the space-sense *par excellence*—has had no share, one may be able to detect to what extent their space-conceptions have suffered by this loss, and how far the other senses, by increased practice, have been able to supply the deficiency. Experiments were made upon one subject, blind almost from birth, and the results thus obtained verified upon others.

(1) In reproducing the Hand by the Hand or the Arm by the Arm, the error of the blind is slightly greater than that of seeing persons, but in the same direction.

(2) If the Hand reproduces the Arm, the error is somewhat greater, if the Arm reproduces the Hand, much greater, than that of seeing persons, the lines being drawn, on the average, less than half their real length.

(3) In expressing inches[1] by the Hand, the error is slightly larger; by the Arm much larger than that of seeing persons. The Motion-inch of the blind is really about $\frac{1}{2}$ inch long.

This yields the conclusion that the error of the blind in reproducing one sense by the same or by another sense is quite like that of normal persons, excepting that in the latter case the error is somewhat larger, especially when motion is the expressing sense. It follows, too, that the blind person's notion of inches (especially of the motor inch) is much too small. The seeing person corrects this by sight.

When, however, we compare the accuracy with which small differences of length can be recognised by blind and by seeing persons, the effect of practice in the use of the hand and the arm shows a strong superiority in favour of the blind. In the follow-

[1] The knowledge of inches was acquired by feeling the intervals between pegs set upon a wooden ruler.

ing Table the number of errors in 10 judgments and the average confidence are recorded as in the former Table.

		Absolute Length: 100 mm.				Absolute Length: 25 mm.			
		Difference of $\frac{1}{30}$.		Difference of $\frac{1}{100}$.		Difference of $\frac{1}{30}$.		Difference of $\frac{1}{100}$.	
		No. of errors in 10.	Av. confidence.	No. of errors in 10.	Av. confidence.	No. of errors in 10.	Av. confidence.	No. of errors in 10.	Av. confidence.
Motion (Arm). | Span (Hand)	Seeing..	1·3	·58	3·5	·27	1·2	·65	3.3	·20
	Blind...	·5	1·84	2·2	1·56	·9	1·77	2·4	1·57
	Seeing..	3·2	·19	...	...	3·8	·16	...	...
	Blind...	1·6	1·39	...	...	2·3	1·37	...	...

As in seeing persons, the sense of Span has a finer sensibility than that of Motion. *In both senses the blind show a marked superiority over the seeing.*[1] By his thumb and forefinger the blind person can appreciate quite as fine distinctions as the seeing person by sight. Moreover, the confidence of the former is unusually high, indicating a reliance on these senses unknown to the latter.

Conclusion.

A reference to the classification of the Space-senses will show how small a portion of the problem has been investigated. Only one in each of the three most disparate methods of gaining linear impressions has been experimented upon. However, the method of experimentation employed is equally applicable to the others (and with some modifications to the study of the Time-sense). Very possibly future research in this direction will greatly supplement and modify the conclusions above reached, although these are based on no less than 28,000 observations, extending over a period of eighteen months.

My thanks are due to the very many persons who in various ways kindly gave up their time to the interests of this rather extended research.

Baltimore, Jan. 1886.

[1] The fact that the discriminative sensibility of the blind is finer but their error in reproducing sensations larger than that of seeing persons, indicates that these two kinds of faculty do not go together. This is borne out by the fact that those individuals who make the greatest error in reproducing sensations are able to judge fine differences as well as or better than others.

V.—DISCUSSION.

MR. W. L. COURTNEY ON BISHOP BUTLER.

By Rev. H. Rashdall.

It is from no desire to disparage Mr. Courtney's *Constructive Ethics* (see Mind 43, p. 435) as a whole that I venture to offer some criticisms upon what I cannot but think his somewhat superficial and unsympathetic treatment of one of the greatest of our English moralists, Bishop Butler. I for one should not dispute the truth of Mr. Courtney's assertion that "the newer studies, and the recent lights of modern times have given . . . . an almost old-world air to Butler's position". In one sense the same might be said of Kant; while in another sense Kant and Butler have formulated in different but not, I believe, fundamentally antagonistic ways the first principles of all ethical systems which supply any real basis for moral obligation. My present purpose is, however, not to estimate Butler's place in the history of ethics, but to show that Mr. Courtney has not understood him.

My first quarrel with Mr. Courtney is that he classifies Butler with the representatives of "Sentimental Altruism". While acknowledging (p. 105) that "it is more for the convenience of classification than for any exact similarity of doctrine that Butler has been classed with such men as Shaftesbury and Hutcheson," he defends this procedure by saying that Butler, though he sometimes called it a power of judging, "yet as often treated Conscience as emotional" (p. 94); and again (p. 106) that Butler's Conscience is "partly intellectual and partly emotional". Now Mr. Courtney makes no distinction between Butler's doctrine in the *Sermons* and his doctrine in the "Dissertation on Virtue," published ten years later. All his quotations come from the former; and if the above assertions are meant to apply to the doctrine of the *Sermons*, I do not believe that it is possible to bring forward a single passage which will support the allegation. Certainly Mr. Courtney does not produce a single syllable in support of them. Nothing but confusion can come from ignoring the very considerable change which Butler's system undergoes in the "Dissertation". For the present, however, I confine myself to the *Sermons*, and I maintain that, so far as they are concerned, Butler is fully entitled to be classed as a Rationalist. When we remember the aberrations into which an exaggeration of the analogy between moral and mathematical truth had led even Clarke and still more Wollaston, it is no wonder that the cautious Butler was on his guard against modes of statement which might seem positively to identify moral and mathematical truth. Still, it is clear enough that his Conscience, though its relation to the other

activities of Reason is not defined, is conceived of as intellectual, or (according to the phraseology of the time) "an intellectual faculty". In the first place Butler's habitual synomym for it is a "principle of Reflection"; sometimes he speaks of it as a "particular kind of Reflection," or simply "Reflection". Once at least he boldly identifies it with Reason, or rather includes it in Reason. "As the idea of a civil constitution implies in it united strength, various subordinations, under one direction, that of the supreme authority . . . . so reason, several appetites, passions and affections, prevailing in different degrees of strength, is not *that* idea or notion of *human* nature, but *that nature* consists in these several principles considered as having a natural respect to each other, in the several passions being naturally subordinate to the one superior principle of reflection or conscience" (*Sermon* iii.). It is clear that in "reason, several appetites, passions and affections" we are presented with an exhaustive classification of the "parts" or "members" of the Butlerian "system or constitution" of human nature. Conscience is clearly distinguished from "appetites, passions and affections"; hence it must be included in "Reason". So again in *Sermon* xii.: "As the form of the body is a composition of various parts, so likewise our inward structure is not simple or uniform, but a composition of various passions, appetites, affections, together with rationality, including in this last both the discernment of what is right and disposition to regulate ourselves by it". It is, however, only to the first of these elements, or "Rationality," that Butler gives the name of Conscience, as he expressly declares in *Sermon* i.: "This principle in man by which he approves or disapproves his heart, temper and action is conscience; for this is the strict sense of the word, though sometimes it is used to take in more". Butler is a writer in whom a very little ingenuity may discover apparent inconsistencies; but I do not believe that it will be possible to quote a sentence from any part of the *Sermons*, or the Preface to them, really inconsistent with this explicit declaration.

It may, however, be urged that the exact words which Butler uses in defining his "Conscience" are of less importance than the general drift and method of his whole system; and with this I should quite agree. And to my mind the main reason why Mr. Courtney has found so much difficulty in forming a clear conception of the mutual relations of the various "principles" of Butler's "human nature" is that he does not perceive that substantially the self-evident authority which Butler claims for "Conscience" is the authority of Reason. Perhaps the best way of bringing out the rational character of Butler's "Conscience"—though to the present writer it reveals itself in nearly every page of the *Sermons*—is to point out the relation between "Self-love" and Conscience as conceived by Butler. It is assumed throughout that the authority of "Self-love" and "Conscience" is in a sense the same in kind. To Mr. Courtney this doctrine is a stumbling-block; but, properly understood, it expresses the fact

that the obligation to promote private good and the obligation to promote public good both spring from a dictate of reason. It is only when the man contemplates himself apart from his relations to his fellows that the reasonable course of action necessarily seems to him to be the gratification of his various "particular passions," "propensions," &c., in exact proportion to the extent to which such gratification will promote his "good on the whole". It is only over the self-regarding passions that "self-love" claims any authority. Butler never, as Mr. Courtney (p. 106) asserts, "elevates Self-love into the rank of a principle of human nature side by side with Benevolence," except in the sense that reflection approves the promotion of a man's own good on the whole when the effect of his actions upon himself only is in question, in preference to all particular passions which could only attain their object by a sacrifice of "good on the whole," just as it approves the promotion of public good, the gratification of benevolence, in opposition to all other desires or passions wherever the public good is in question. What then is to be done in the case of collision between the dictates of benevolence and those of self-love? Butler's answer is put as clearly as it can well be put in the following passage from his Preface, which must be given in full if its force is to be seen :—

"The not taking into consideration this authority, which is implied in the idea of reflex approbation or disapprobation, seems a material deficiency or omission in Lord Shaftesbury's *Inquiry concerning Virtue*. He has shown beyond all contradiction that virtue is naturally the interest or happiness, and vice the misery, of such a creature as man, placed in the circumstances in which we are in this world. But suppose there are particular exceptions, a case which the author was unwilling to put, and yet surely it is to be put ; or suppose a case which he has put and determined, that of a sceptic not convinced of this happy tendency of virtue, or being of a contrary opinion. His determination is that it would be without *remedy*. One may say more explicitly, that, leaving out the authority of reflex approbation or disapprobation, such a one would be under an obligation to act viciously ; since interest, one's own happiness, is a manifest obligation, and there is not supposed to be any other obligation in the case. 'But does it mend the matter, to take in that natural authority of reflection? There indeed would be an obligation to virtue : but would not the obligation from supposed interest on the side of vice remain?' If it should, yet to be under two contrary obligations, *i.e.*, under none at all, would not be exactly the same as a formal obligation to be vicious. . . . . But the obligation on the side of interest really does not remain. For the natural authority of the principle of reflection is an obligation the most near and intimate, the most certain and known; whereas the contrary obligation can at the most appear no more than probable, &c."

There is one passage, and, so far as I am aware, only one, in the *Sermons* which seems at first sight to claim more for Self-love than Butler claimed for it in the Preface, *i.e.*, that it is rational to gratify it when Conscience or Reflection does not supervene, as it does whenever the dictates of Self-love conflict with those of Benevolence ; and that is at the end of *Sermon* xi., where he

appears to admit "that when we sit down in a cool hour, we can neither justify to ourselves this or any other pursuit till we are convinced that it will be for our happiness, or, at least, not contrary to it". I believe that, fairly considered, this passage implies no more than what was admitted in *Sermon* ii., *viz.*, that there is a *primâ facie* obligation to promote one's own good, though it may be overridden by the superior authority of Conscience enforcing the claims of Benevolence. It should be observed that this sentence is ushered in by a "Let it be allowed". Butler is willing to concede this position as to the claims of "Self-love," and yet he is prepared to prove the obligation to virtue even upon that supposition. His own position is that the obligation to virtue is nearer and more obvious than that of self-love; Reason, however, demands that there shall ultimately be an identity between private and public good. But what if there be a collision? Well, in that case Reason would be divided against itself. Reason will still say 'Promote the public good'; yet it will be impossible to show that the conduct of the man who in that case prefers his private good is altogether irrational. Such seems to me to be the meaning of the sentence above quoted when interpreted by the sentence which follows:—"Common reason and humanity will have some influence upon mankind, whatever becomes of speculation; but so far as the interests of virtue depend upon the theory of its being secured from open scorn, so far its very being in the world depends upon its appearing to have no contrariety to private interest and self-love".

How then does Butler make out this harmony between the claims of virtue and those of self-love? By insisting upon the principle that "disinterestedness" is no anomalous peculiarity of "benevolence" or "public passions," but is common to all "desires of objects," the attainment of which gives pleasure because they have been desired, instead of (as Hobbes had maintained) being desired as so many means to the attainment of a maximum pleasure. It is, therefore, Butler maintained, quite as likely *a priori* that self-love may attain its object by the gratification of the benevolent passions as by the gratification of any others. There is no fundamental inconsistency between Benevolence and Self-love: in promoting another's good I am not necessarily subtracting something from my own. To this argument he adds some homely practical reflections on the fallacy of supposing that happiness consists in riches, honours, &c.—things which cannot be given to another without being taken from oneself. And then in the last resort there remains the consideration that Conscience "goes on to anticipate a higher and more effectual sentence, which shall hereafter second and affirm its own". The postulate of immortality reconciles the rare cases of real collision between public and private good.

What is there in all this to justify either the perplexity or the contempt of a critic occupying Mr. Courtney's philosophical standpoint? It is no doubt a pity that Butler should not have

analysed the conception of good and risen to the idea of a higher good of the individual, which is attained by the sacrifice of mere pleasure. He might have written more clearly and more convincingly had he entered upon the question of differences of kind in pleasure, or (what comes to the same thing) differences in intrinsic value between the objects of different desires. But after all his position is fundamentally identical with Kant's. There are two rational ends-in-themselves—Duty and Happiness—the ultimate reconciliation of which demands the postulate of immortality. In the one very important point in which Butler approaches much more nearly to the position of the modern Hegelians than Kant, no justice is done him by Mr. Courtney. Kant held that all motives except the "interest" of Reason in the Moral Law are desires for pleasure. Butler held that a multitude of desires, good, bad and indifferent, were alike in being disinterested: desires for objects are not desires for pleasure. Mr. Courtney writes as if Butler grounded the authority of virtue on its being "disinterested" (p. 113).

"If benevolence is a merely natural affection, it must rest on the same basis as those natural passions and appetites, which have their own particular ends, like hunger or resentment, and which Butler calls 'propensions'. In that case it cannot be in any sense a supreme principle in man's nature, unless each of such natural 'propensions' be in turn supreme. Therefore, too, if Benevolence be not a principle, Butler cannot insist on the disinterested character of the main principle of action. If, on the other hand, Benevolence is a principle of virtue, it must be reflected on, it must be a sort of reflective desire for good in the world. As merely a simple propension it might be disinterested, but as reflected on it must become interested."

Mr. Courtney is here seeking to prove against Butler the very thing which Butler did his best to establish against the Sentimentalists, with whom he has been preposterously classed by Mr. Courtney. "Disinterestedness is so far from being in itself commendable that the utmost possible depravity which we can in imagination conceive is that of disinterested cruelty" (Preface). He is at the utmost pains to show that, *quâ* "disinterested affection," Benevolence rests, as Mr. Courtney says, "on the same basis as those natural passions and appetites which have their own particular ends". "Every appetite of sense, and every particular affection of the heart, are equally interested or disinterested, because the objects of them all are equally self or somewhat else" (*Sermon* xi.). Butler nowhere, as Mr. Courtney insinuates, makes Benevolence "a supreme principle in man's nature". Conscience or Reflection is "the supreme principle," and it is only because that general good of society, which is the object of Benevolence, is the object whose pursuit that supreme principle approves that Benevolence becomes to Butler—though I do not think that Butler uses the expression—"a principle of virtue". To conclude this part of my criticism, I must strongly demur to the assertion that according to Butler "the balance

between Self-love and Benevolence constitutes virtue" (p. 113). "A balance" seems to suggest the notion of a 'compromise,' or a 'mean,' or a 'judicious mixture,' and of such a doctrine there is no trace in Butler. Butler believed—somewhat too optimistically perhaps—that the preference of benevolence to any passions which conflicted with benevolence was the best way of securing a happy life in the ordinary, popular, unanalysed acceptation of the term. In the rare exceptions he nowhere suggests that a man should steer his course midway between complete selfishness and self-sacrificing benevolence; still less does he (as Mr. Courtney represents) ground the superiority of virtue to vice upon its utility. He consistently maintains that virtue or moral rectitude consists "in affection to and pursuit of what is right and good as such" (*Sermon* xi.), "that virtue is to be pursued as an end, eligible in and for itself" (Preface), though it is with the Cassandra-like air of a man who speaks to a stubborn and perverse generation, and is therefore driven to promise that "there shall be made all possible concessions to the favourite passion," Self-love.

I have now cleared the ground for showing the baselessness of Mr. Courtney's assertion (p. 109), that as the result of an analysis of Butler's system there emerge "five different ways of stating the principles of ethics"—five distinct answers to the ethical problem: (1) "Follow nature"; (2) "Be guided by benevolence"; (3) "Be guided by cool self-love"; (4) "Obey conscience"; (5) "Love God". I maintain that Butler has only one "principle of ethics"—'Obey conscience'. If a man goes on to ask, 'What will conscience prescribe?' Butler will answer, 'Be guided by self-love when your own good only is in question; when other people are concerned, be guided by benevolence,' adding that in so doing a man will as a rule be promoting his own happiness at the same time. Butler never says, 'Be guided by cool self-love' as a general principle of action, though he does say in effect, (1) 'If you insist on being guided by self-love, even then benevolence has a good deal to say for itself'; and (2) 'Since my own good is a *primâ facie* rational end, a rational and self-consistent *theory* of virtue must establish that there is no ultimate irreconcilability between the claims of public and private good'.

I have still to deal with the relation between Conscience and (1) the Following of Nature, (2) the Love of God. I must confess myself unable to understand how any one can have read the Preface and *Sermon* ii. without seeing that the principle "Follow nature" is not put forth as Butler's own answer to the ethical problem. It was a phrase which he found already in current use—first, in that school of ancient philosophy with which he had most in common; secondly, in the "licentious talk" of the fashionable Mandevilles of his time, who maintained—and that by no means as a mere speculation—that the restraints of morality were "contrary to nature". Now Butler expressly assents to Wollaston's remark that "to place virtue in following nature is at best a loose way of talk". He goes on to expose the folly and

self-contradiction of such a principle as a guide to conduct unless it is understood to mean "following the highest part of our nature"—in other words, obedience to Conscience. Where is the inconsistency of presenting his fundamental principle in a form adapted to bring out what was true and expose what was false in the popular philosophy which he found prevalent about him? Suppose a Hegelian writer of the present day were to take up the popular catch-words about "the evolution of morality," "gradual adaptation to environment," "accumulated experience of the race," and the like, and show how all that is true in such principle is recognised—nay, insisted upon with all possible earnestness—in the Hegelian view of a rational conception of moral good gradually unfolding itself in the consciousness of the race and stereotyping itself in the laws and institutions and accepted moral rules of conduct. Would such a writer be justly chargeable with deserting his fundamental principle and giving us two answers to the ethical problem instead of one?

And now as to Butler's theory of the "Love of God". Surely no one who admits with Butler that virtue consists in devotion to the good as such and that God wills what is essentially good, need have any difficulty in recognising the love of God, which Butler explains (*Sermon* xiv.) as a resting "in His will as an end, as being itself most just and right and good"—as constituting the whole of morality and in a sense something more. The following of Conscience, not only in outward act, but with all the heart, with all the soul, with all the strength, is to a theist the love of God. When Butler goes on to speculate that hereafter "an infinite being may himself be, if he pleases, the supply to all the capacities of our nature," when he puts forward this "amor intellectualis" of God not so much as the immediate aim of the present life but as constituting the happiness of the future, he is no doubt on less certain ground. But there is nothing in such an idea,—which (I must repeat) is nowhere put forward as an answer to the "Ethical Problem"—which in the smallest degree justifies Mr. Courtney's assertion that "in *Sermons* xiii. and xiv. we are introduced to a fifth principle of ethics" (p. 110). I have no doubt that, duly tricked out in vague and sonorous Hegelian phrases and purged of too obvious a similarity to the ideas which 'popular philosophy' has been in the habit of regarding as religious, it might be made acceptable even to more esoteric Hegelians than Mr. Courtney.

Throughout Mr. Courtney's treatment of Butler there seems to be a lamentable lack of the genuinely historical spirit. Of course, if no moral system possesses any value which is not explicitly based upon a sound metaphysical system, the ethics of Butler will have no interest for the present-day Hegelian. But if Butler is not worth understanding, why write about him? It is easy enough to criticise the *naïveté* of the position that the question of the rightness or wrongness of any particular action will "be answered agreeably to truth and virtue, by almost any fair man

in almost any circumstance" (*Sermon* iii.)—the want of any idea of evolution or development in his view of conscience—the want of discrimination between the subjective and the objective rightness of actions. On these subjects Mr. Courtney has said less than he might have said. These and many more positive mistakes of Butler—which are of course to a great extent characteristic of the age rather than of the man—would have afforded ample scope for the exercise of Mr. Courtney's powers of criticism. His insistence on the deficiencies of an ethical system which rests either on no metaphysic at all or upon the metaphysic of Locke is of course justifiable enough. But the limitations of Butler's thought should not have blinded Mr. Courtney either to the extreme and permanent value of Butler's exposure of the essential *hysteron-proteron* of Hedonism or to the essentially rational character of his ethical system. When writers of Mr. Courtney's school are dealing with Kant, they make very light of the shocks to common-sense, the utter impossibility of extracting from his system a workable criterion, the difficulty of reconciling one part of the system with another, the barbarous and sometimes almost meaningless paraphernalia of technicalities through which one has to penetrate to the really fundamental ideas of the writer. It is one of the best features of Mr. Courtney's interesting book that he freely admits such deficiencies and protests against the "air of mystery" in which metaphysicians delight to envelop their system. He makes it his object to bring out the really essential, the permanent, the intrinsically valuable element in the writings of such masters as Kant and Hegel. I do not in the least complain of such a procedure; but why should it not be extended to poor Butler? The reason is to be sought in the fact that even Mr. Courtney cannot wholly emancipate himself from the prejudices of his school, which prevent its members from recognising an essential similarity of doctrine when disguised by a more popular and less technical phraseology, and when divorced from the "metaphysic" with which they have been accustomed to associate it. Surely it is possible to give some reasonable answer to the questions, 'What is the ethical standard?' 'Why must I be moral?' 'What is the Moral Faculty?'; without at the same time answering the questions, 'What is Knowledge?' 'What is Being?' A man may surely have sound and even philosophical ideas about the nature of Morality without being prepared to commit himself to the identity of Knowing and Being; though I grant that his ideas about morality are likely to be deeper and more solidly-founded if he has made up his mind upon the latter questions also. If Butler, with all his deficiencies and limitations, has contributed to make possible alike the answers to the ethical problem of Ethics which is given in the *Methods of Ethics* and the answer which we find in the *Prolegomena to Ethics*, he ought not to have been slightingly treated because he has contributed little or nothing to Metaphysic properly so called.

THE DEFINITION OF NATURAL LAW.

By Norman Pearson.

Under existing circumstances an attempt to criticise the accepted definition of Natural Law is a somewhat venturesome undertaking. There is perhaps no single term which is at once so rigidly defined by the learned and so consistently misconceived by the ignorant. It has often been pointed out, and with perfect justice, that for a great deal of this confusion scientific men have nobody but themselves to blame. The term "Law" was most unfortunately selected by science to denote something which has hardly a feature in common with law in its ordinary meaning. In consequence of this latent ambiguity the scientific conception of Natural Law has had, and probably for a long time will have, to struggle with a mass of popular misconceptions, in addition to certain more legitimate criticisms. It is extremely hard to persuade people new to the subject that "Natural Law" in the scientific sense involves no notion of an over-ruling ordinance; and it is perfectly easy to appreciate the difficulty which such people feel. It is obviously unnecessary, however, to discuss this distinction for the benefit of my present readers, and I only propose here to suggest a special modification of the definition of Natural Law which I think in honesty the facts of the case require.

The definitions of Natural Law given by scientific writers are all substantially identical, and I only quote from two of the best-known in order to illustrate the point which I wish to enforce. Lewes (*Problems of Life and Mind*, p. 308) describes a law of nature (in the sense now under discussion) as "a notation of the process *observed* in phenomena". Again, "a law is simply the notation of *observed* facts". So too Mill (*Three Essays on Religion*, p. 14) says that laws of nature "are neither more nor less than *observed* uniformities in the occurrence of phenomena". (The italics in the above quotations are mine.) Other writers speak of them as generalisations from experience; and, in short, the notion of *previous observation* or *ascertainment* enters invariably into the scientific definition of Natural Law. But it is in this respect that I think all such definitions are faultily severe.

It is obvious, of course, that Ascertainment is a necessary pre-requisite to the classification of natural laws. We cannot pronounce upon the uniformity of a natural process until such uniformity has been observed: in other words, we cannot know a natural law till we *do* know it. But though this proposition is indisputably true, it is nevertheless indisputably barren; and it is surely needless to encumber a scientific definition with the paste-board armour of an empty truism.

So far, however, the mischief is not very serious; and, if this superfluous verbiage adds but little to the strength of the scientific position, it does not, *primâ facie*, weaken it against external attack. Indeed it may be admitted that it has had its uses in the past. *A priori* theories of the universe and its operations were enemies far more dangerous to the dawning conception of Natural Law than they are now; and it was at one time a positive necessity for science to exclude resolutely from its realm the whole host of unverified and unverifiable assumptions conjured up by the disorderly imaginings of theology. But at the present time this danger has practically disappeared. Erroneous views of the meaning of Natural Law no doubt exist, and in abundance; but they are not often to be found now in high places; and, as a general rule, the educated theological view of Natural Law is quite in accordance with the view of science. At the same time there is a good deal of antagonism on the subject between theology and science, which, perhaps, is partly due to this notion of Ascertainment on which scientific disputants insist as essential to Natural Law. And upon this point I venture to think that scientific disputants are wrong.

Admitting, as of course we must, that before we can describe any process of phenomena as uniform we must first succeed in observing its uniformity, I nevertheless think that the insertion of the ascertainment-clause into the definition of Natural Law is really illegitimate; and it is illegitimate because, at the very least, it obscures the point which science is concerned to enforce. It is perfectly accurate to describe all known natural laws as observed uniformities of process: but surely the essence of a law is its *uniformity*, and not the accidental fact that it has been *observed*. Science is perpetually adding to the number of discovered laws; but these laws existed from the time when the operations of nature began, and the mere fact of their discovery does not add a tittle to their validity. In short, ascertainment is necessary to our *knowledge* of natural laws, but it is not the least necessary to their *existence*.

Nor is this distinction a mere fastidious nicety of criticism. The ascertainment-clause may be, and often is, a positive obstacle to an increase of knowledge, because we are incurably apt to infer, in the case of the more familiar natural laws, that we are acquainted with *all* the possible antecedents of their operation. To every Englishman it is a familiar experience that, under requisite conditions, water will lose its fluidity and become ice. But to the Saracen in *The Talisman* such a phenomenon appeared an impossible portent, and he very logically hesitated to believe in it. It is perfectly true that this objection does not strictly affect the current definition of Natural Law, which only asserts that from certain antecedents, *neither more nor less*, certain consequents, *neither more nor less*, will follow; but, as I have said, this is apt to be forgotten, and a long and unbroken experience

tends to make us regard a natural law, not as a uniformity of process *under certain circumstances*, but as a uniformity of process *under all circumstances*.

The result of this misconception is obvious. The moment we lose sight of the limited and relative character of all human observation, and begin to regard natural laws as invariable, not only under previously ascertained conditions, but under all conditions whatever, we transcend the limits of legitimate inference, and practically shut up progress in a *cul-de-sac*.

I do not waver a hair's breadth from my faith in the absolute jurisdiction of Natural Law in its widest sense; I only demur to the fallacious assumption that "natural law" must be treated as equivalent to "ascertained natural law" only; in other words, to the assumption that the possibilities of things can be logically limited to the ascertained possibilities of experience. Experience is a sure guide so far as it goes, but nobody will pretend that the experience of the world to-day has exhausted all the possibilities of the experience of the future.

With regard to what I may call purely physical laws of nature, the ascertainment-clause is less likely to lead to serious error. But why? Simply because the conditions under which the commoner physical laws operate are, for practical purposes, already ascertained. We can pronounce with absolute confidence upon the phenomena of gravitation as shown by material bodies, because, from their comparative simplicity and the frequency of their occurrence, we are intimately acquainted with their necessary conditions. But the moment we turn from these to the phenomena of life and mind, we must needs leave our certainty behind us. Nor is this in any way a matter for surprise. Both the science of life and the science of mind are yet in their infancy; and, even apart from this, their phenomena display an intricate complexity in place of the comparative simplicity of the phenomena of physical laws. This difference appears on the very threshold, as the distinction between organic and inorganic chemistry sufficiently shows. We are doubtless entitled to attach as much weight to ascertained uniformities in the biological or the psychological branch of science as we allow to the ascertained uniformities of physical law. But in these comparatively unexplored spheres of inquiry we are not entitled to deny that an occurrence is possible, because it has not fallen within previous observation. Let me not be misunderstood. I do not impeach in the slightest degree the validity of ascertained biological or psychological laws. Such laws must be loyally admitted so far as they go. I only contend that they do not necessarily go far enough. They may be true accounts of certain biological or psychological facts, but they do not exclude the possibility of other and apparently conflicting biological or psychological facts.

Let me take a prominent instance in biology to illustrate this. The doctrine of 'Biogenesis' is probably accepted by ninety per

cent. at least of scientific authorities. Let us assume, *argumenti gratiâ* at all events, that the testimony of experience shows that life invariably springs only from some antecedent life. Can we therefore say that Biogenesis is a law of nature? In a sense we can; and—my postulate being granted—we are perfectly justified in so saying. But we must not lose sight of the fact that the justification for this assertion rests on experience only; and therefore, that we cannot legitimately extend the scope of the law beyond the realm which experience illumines for us. We may be entitled to say: All life springs from antecedent life *now*. We are not entitled to say: All life *has* sprung from antecedent life; for it is obvious, on any theory of the universe, that at some period or other life must have sprung either from non-life or from nothing. Under these circumstances therefore, whatever they may have been, not Biogenesis but 'Archebiosis' was the biological law of nature that then obtained.

The facts seem so simple when put before us *in extenso* that error appears impossible; and so long as we keep to the facts, error is impossible. But we have a persistent tendency to stretch the mantle of experience over conditions of existence which lie necessarily outside it; and in this way we come to pervert a natural law, which is merely an enunciation of what *is* under given conditions, into a prophetic enunciation of what *must be* under conditions of which experience can tell us little or nothing.

Take again the famous saying that "Miracles do not happen". In a sense this is indisputable from a scientific point of view. We may even go further, and say that a miracle, in the sense of a violation of the order of nature, never could happen. But then comes the question, What is the order of nature? The order of nature is constant in the sense that causation pervades its minutest detail. Nature's accounts, so to speak, are most strictly kept. No force appears on one side of a natural equation which is not fully accounted for on the other, even though it be not always within our power to analyse the force-distribution which takes place. But the order of nature, as we perceive it, is not constant in the sense of being identical—identical, that is, from the beginning till now, and from now into the future of eternity.

Just so far as science insists on applying the ascertainment-clause universally to the interpretation of nature, so far will theology be able to insist triumphantly on the occurrence of miracle. If from our present observation that life springs invariably from antecedent life, we proceed to declare that this *observed uniformity* is an absolute natural law, it is open to any critic to retort that in this case natural law must at some time or other have been violated, since at some time or other the original life must have arisen from some other than an antecedent living source. The error lies in restricting "Natural Law" to "an *observed* uniformity"; which amounts, in fact, to an attempt to impose the transient conditions of the present upon an unknown

past and an unknowable future. Such an attempt is really foredoomed to failure, and gives ample opportunities for the enemy to blaspheme. But once get rid of the qualification "*observed*" from the definition of Natural Law, and Science is placed at once in a sounder and more tenable position.

Moreover the ascertainment-clause is open to another objection. It is clear that our possibilities of observation are restricted not only by the limits which time imposes, but by the imperfection of our faculties. The moment we get beyond the commonest phenomena of every-day life, we can rarely be quite sure that a sufficient number of instances have been observed to justify a universal induction. But over and above this we have to take into account our possibilities of error in the process of observation. Such errors cannot be entirely excluded even from the laboratory, and, in cases in which experimental tests are impossible and we are confronted with the phenomena which uncontrolled nature presents to us, it is obvious that the possibilities of error are immensely increased. This is particularly true in the relations of body and mind. The antecedents ABC may be followed a million times within our experience by DEF as consequents. But on some occasion X is added, unknown to us, to the antecedents, and we are startled by the appearance of an unfamiliar Z in the consequents. There are two solutions in which our perplexity usually takes refuge, the one being that Z is a subjective illusion, the other that it is a mystery which smacks of the miraculous. Both, of course, are equally untrue, and both alike spring from a form of intellectual bondage. The man who is slave to a limited conception of Natural Law dismisses the difficulty by declaring the new appearance an illusion. The man who is slave to superstition, religious or otherwise, calls it a mystery, a supernatural something, whose coming and going is wholly independent of the orderly course of nature, and consequently an indirect proof of the particular form of superstition which he happens to revere. And yet all the time it is a perfectly orderly phenomenon, the product (if I may so call it at the expense of strict accuracy) of Natural though *unobserved* Law.

The correlations of body and mind are still most imperfectly understood, and till comparatively lately their existence was hardly known. Before it was understood that body and mind cohere, not as independent elements of a temporary combination, but as mutually dependent members of an organic whole, a large class of rare bodily phenomena were not unnaturally regarded by many as miraculous or supernatural. Stigmatisation, healing by faith, many of the phenomena of trance, mesmerism, clairvoyance, &c., formerly admitted of no other explanation. But now that we know the power of imagination and its related faculties to produce physical pain or even injury; when we find that gout may be cured by a sudden fit of emotion, warts charmed away by counting or being treated with coloured water, and a variety of

therapeutic results produced solely by means of subjective expectancy; when stigmatisation has taken place under a close medical supervision;[1] when hypnotism has become a scientific study, and in skilful hands can be employed with extraordinary precision; when even the exceptional facts of clairvoyance seem to admit of explanation as the "transference of special sense":[2] with these and many similar discoveries to lighten our darkness, we now find little difficulty in bringing the mysteries of the past within the natural law of the present.

But satisfactory though it be that our *knowledge* of natural order should be enlarged by the recognition of these phenomena as orderly, it is obvious that, quite independently of our knowledge or ignorance of the fact, these same phenomena, though alternately blessed as miraculous or banned as superstitious, were never anything but orderly.

These experiences of our errors in the past ought to be useful for our guidance in the future. A vicious extension of the principle of the ascertainment-clause has led scientific thought to reject as impossible facts which a further inquiry has established, and the same tendency still prevails widely.

The phenomena to which I have alluded above are signal instances of what natural order may unexpectedly comprise; and, with the sciences of psychology and physiology hardly half grown, there is every reason to believe that the list will be largely increased. With these considerations before us, it is surely unwise to pass sentence prematurely on phenomena which are strange to our experience, or to depreciate the research which strives to bring them to the light of day.

Again, as I have already intimated, the current definition of Natural Law seems to bear too hardly upon theology. The rigorous claims of previous ascertainment brand all the miracles of theology with the stigma of falseness. It is clear, I think, that this is unjustifiable. It is often possible enough that the reputed miracle may have taken place in the sense that, as an event, the record of its occurrence may be true. All that science need dispute is its miraculous character, and this of course is quite incompatible with any sound conception of Natural Law. Theology, it is true, sometimes seeks to evade this conclusion by recourse to the notion of a "higher" law, which is intended

[1] For these facts I refer generally to Dr. Carpenter's *Mental Physiology*, chap. 19 ("The Influence of Mental States on Organic Functions"). One striking instance which he mentions I briefly reproduce:—A lady while watching a child playing by a window saw the sash suddenly descend upon its hand. The violent emotion which this sight aroused in her produced a corresponding injury in her own hand so severe as to necessitate an operation. I may add, perhaps, that I have known a similar though less pronounced case happen to a friend of my own.

[2] A paper read before the Royal Society a few years back by Dr. Davey.

to preserve both the uniformity of nature and the miraculous character of the so-called miracle. The phrase, however, is extremely misleading, and in this connexion is almost meaningless. If an invariable order of nature exists at all, there can be no degrees of validity between its processes. All alike are invariably orderly, the simplest being just as stubborn in its regularity as the most abstruse. The theory of a "higher" law only derives what plausibility it possesses from an importation into the meaning of "Natural *law*" of the illegitimate sense of "*ordinance*". It is possible to imagine degrees of validity or authority between different ordinances or spells; it is quite impossible to imagine any such degrees between the various manifestations of Natural order. Moreover, even if the doctrine of a higher law were admissible, it would not save the miracle, *quâ* miracle. For, inasmuch as the miracle is still *ex hypothesi* referred to Natural Law, *i.e.*, is regarded as a link in some natural chain of causation, it is still a natural and not a miraculous phenomenon, and consequently its evidential value as a *miracle* is absolutely *nil*.

But this doctrine of "higher laws," erroneous though it be, does throw some useful light on that class of phenomena to which I have already referred, and which are apt to be excluded from acceptance by the strict definition of Natural Law. We cannot properly admit any variance of validity between laws of nature, any more than we can admit that such laws are occasionally irregular. But, on the other hand, we can hardly help admitting the possibility at any rate of orderly phenomena as yet unknown to us. Phenomena of this kind may have escaped observation, either by reason of the limitation of our own faculties, or because their antecedents are complex and therefore comparatively rare, or from a combination of both these reasons. Consequently the strangeness of a phenomenon does not justify us in pronouncing it either a delusion or a miracle, for its unusual character may well be referred to a combination of unusual but perfectly orderly conditions.

If this be so, the case against the ascertainment-clause is made out. If we believe Natural Law to prevail *universally*, it is incorrect to define it as an order which is *limited*—limited, that is, by the condition of previous observation. If, on the other hand, we desire to restrict its meaning to *observed* uniformities of process, it is inaccurate to call it *Natural* Law; seeing that, *ex hypothesi*, it does not extend to the *whole* of nature, but only to that small part of it which has fallen under human observation.

VI.—CRITICAL NOTICES.

Outlines of the History of Ethics for English Readers. By Henry Sidgwick, Knightbridge Professor of Moral Philosophy in the University of Cambridge. London: Macmillan & Co., 1886. Pp. xxiv., 276.

The publication in a handy shape of the article "Ethics" from the *Encyclopædia Britannica* is a boon to the student; but the present manual is far from being a mere reprint. A judicious revision (with occasional rearrangement) has resulted in an extension of the essay to nearly twice its original length, but with little alteration of the original proportions. Of these additions there may be specified under the head of ancient ethics an excellent *résumé* of the *Nicomachean Ethics*, an account of the Roman moralists, with more detailed notices of Plato and Epicurus; while in the modern period, besides a fuller analysis of Butler, we get a few (perhaps too few) words on the topics of free-will, evolution and pessimism. The new matter now incorporated will not fail to make the handbook more serviceable to those for whom the requirements of modern life include an acquaintance with the rudiments of moral science. But alike for the academic and the general reader Professor Sidgwick's *Outlines of the History of Ethics* will commend itself as the work of a master in the subject, who in a few pregnant pages has sketched out skilfully and judicially the history of Greek, of mediæval, and of English reflections on the aims and laws of human conduct.

The unity of the work is expressed in the qualification of its contents as meant for "English readers". It is addressed to a public which may be assumed to wish a knowledge of the larger outlines of speculation on the ideas of right and wrong, good and evil, but which at the same time will probably take faint interest in those moralists whose theories do not form an integral part or an indispensable pre-requisite of the current stock of ethical ideas. Mr. Sidgwick confines himself accordingly to the old story—yet as important as old—which traces the origin of our modern civilisation. As it specially chronicles the ethical development this record begins with the Greek thinkers, proceeds through the transformation-period in which their conceptions were modified by theological dogma, and concludes in Mr. Sidgwick's pages by tracing with critical observation the course of English moralising from Hobbes to the present day, when the ideals of ordinary no less than of speculative thought seem to be threatened with absorption in the swelling flood of realistic science. Outside that historical march of theory there are isolated movements of ethical reflection, running in narrow grooves of religious creeds

and ecclesiastical law; and there is everywhere a vast congeries of social observances out of which there has hitherto failed to emerge any formulation of principle. Of the latter, or raw material of morality, a history of ethics in the common acceptation does not treat. But of the other or theological ethics it is for English readers necessary to give so much account as is due to its eminent co-operation towards forming the views on the ultimate aim and law of conduct held even by those who claim to be emancipated from the special traditions of Christianity. Mr. Sidgwick's work is a record of the attempts made by Greek and Roman philosophers, by the Fathers and Schoolmen of the Catholic Church, and by a succession of English essayists, to formulate the law of human life, to indicate the grounds on which it was based and the methods by which it could be ascertained. This limitation of the sketch is from what are called practical considerations entirely justifiable. Yet, even without entering on a minute examination of outlying fields, it would have been well to indicate (in such terms as may become the non-specialist in oriental learning) the wider scope of a history of ethics which should include (*inter alia*) the products of moral reflection in China and in ancient India.

A history presupposes a certain unity of subject-matter. Accordingly Mr. Sidgwick begins by briefly stating the scope of the ethical problem in somewhat the following terms. The subject of ethics is the study of man's well-being (variously conceived as virtue or pleasure), with some explanation of the nature of the moral law or of duty, and of those psychological conditions in the individual, which contribute to mould or modify his sense of obligation or conscience. So far as the being or well-being of each depends on that of his community, this complication of requirements makes the province of ethics overlap that of social and political science. So far as the laws of the universe affect man, morals depends upon metaphysics or on general physics; and so far as the law of conduct is referred to a divine legislator, ethics is co-terminous with theology. But if, as in English moralists, these problems are left on one side, moral psychology comes to usurp the whole ethical province as its own.

The only fault which we have to find with this description is that it is little else than an abstract *résumé* of the facts presented elsewhere in the book under their historical aspect. And perhaps Mr. Sidgwick would urge that to state the differences in conception of the ethical problem as understood at different ages is enough for the historian. He neither adopts the standpoint of the bold theorist who, possessed of a firm conception of the "science of ethics," assigns to past and present thinkers their place in his model scheme, nor on the other hand does he make the sceptical suggestion that ethics is nothing but a rhapsody of prolegomena and metaphysics, and that the diversity of its methods is a consequence of its radical incoherency of plan. Yet even the critical historian may usefully supply a more searching

clew to the labyrinth of ethics, and probe more deeply the causes of the decay or efflorescence of ethical speculation.

What Mr. Sidgwick has put most prominently forward in his account is the contrast between the chief aim in Greek and in modern ethics. In Greek times ethics,—free from any idea of an already accomplished salvation only needing to be received, and an already promulgated law only needing to be apprehended and obeyed,—launched boldly forth on the quest for the Chief Good—the voyage to discover the means whereby human life may be lived to the best effect. Gradually it forced itself upon the notice of thinkers that, in order to distinguish the good from the apparent good (the merely useful and pleasant), a criterion must be taken in what was at first known as reason and right reason, but was afterwards more objectively entitled nature and the law of nature, and even the moral law and duty. Yet the Greek, though he owned that the Good must be determined by law and reason, was reluctant to adopt an ethical formalism, and even in affirming knowledge to be the chief good explained that it was the knowledge of the good. The soul according to the Platonic description rises by the fresh direction of its intellectual eye to an apprehension of ever higher and higher forms of good: and it is always good towards which that eye is inherently turned. The advance in the development of this doctrine was seriously harassed by the prevalence of a common antithesis between law and nature. To the citizens of a country broken up into petty communities the side of law which most impressed itself upon reflection was its arbitrary and particularist character, as of something running counter to that free, original and spontaneous bent of things called nature. Yet alongside of this emphasis on the features of authoritative and external dictation, philosophers of more than local patriotism set forth the ideal of a law which is passionless and self-regulating mind, the voice of right reason, and which to those later Stoics who saw the great vision of the Roman Empire became the code of organisation for the universal city of God. In the hands of the Christian scholars of the early centuries this ideal became the law of God. Yet one of the most interesting passages in Mr. Sidgwick's book is where he shows the new virtues and the new forms of old virtues that Christianity made influential in the world. And the sum of his pages on this point is to the effect that not in the idea of morality as divinely ordered, but in the freshening of those impulses which gave birth to faith, hope and love, and in the vivifying by a personal example of the sense of divine ownership of man, lay the specially progressive influences ethics owed to Christianity. In the brotherhood of love, in the fact-transcending power of faith, and in the hope of endless improvement, lay the new dynamic, which supplied what had been lacking in the old conception of reason and knowledge: reason and knowledge which had never been what they claimed

to be, but only visions of a passing perfection, 'moving about in worlds not realised'.

But the great lesson alike of Greek and of early Christian ethics remained to be drawn by more modern philosophy. The law of nature or of God considered as the supreme canon of morality is to be carefully distinguished from law as understood by jurisprudence or by natural science. The great delusion which led to casuistry and favoured hypocrisy was the supposition that the law of God and nature was a completed code needing only to be applied by continuous deduction, or a set of facts requiring to be detected by persistent observation. That law is of infinite paragraphs, but one principle, and that principle itself is not a general order, but a test of all action,—not a command to do this or that but a condition which all conduct must conform to on pain of failing to be moral. The moral law—such is the special contribution of modern philosophy—alike in Hobbes, Locke and Kant—can only be stated in a formal shape: any concrete or material rules fall short of the universality that an ethical law requires. The law of ethics is but one, and in its baldest form bids us have regard to the universal in all we do. To lay down this as the prime fact of morality and to analyse its presuppositions was the achievement of Kant. And he is thus the founder for modern times of idealistic as opposed to realistic ethics. He affirms most clearly that the characteristic of moral action is that it proceeds from a being implicitly the member of a community—a community unlimited in time and space—including (in the language of ancient thinkers) all rational beings. Of this supreme principle altruism is an application: and Kant lays the foundation (or analyses the intuitional datum) on which Bentham and Comte equally build. Some modern writers have been led to say in consequence that all ethics is intrinsically social ethics. Yet even if we allow the designation, we must add that for ethical theory the society in question must be conceived as universal and ideal in the first instance, and only secondarily as real and finite. It is the failure to recognise this distinction between absolute ethics and the relative ethics which shades into jurisprudence that constitutes the chief defect of the common versions of utilitarianism. It is the merit of Plato, Hobbes, Kant and Mr. Spencer to have given it a clear expression.

The account of Greek ethics is like the rest of the book sure to teach much even to those who are familiar with the ground it traverses. Beginning with the first efforts to isolate ethical conceptions, Mr. Sidgwick says a little about Pythagoras, Heraclitus and Democritus. As to Pythagoreanism, there is probably insufficient prominence given to its mathematical formalism (*e.g.*, "harmonious equality" is scarcely an adequate rendering); and we miss any note of that insistence on purity or asceticism to which many pre-Socratic thinkers bear witness. The picture given of the labours of the Sophists and Socrates,

though of great merit, errs by attaching too much weight to the character of the Sophists as teachers of virtue (a pretension which only some of them made), instead of treating them as the heralds of that general culture, which Athens called for in consequence of the political results of the Persian invasion. It is not likely that Greeks ever became "persuaded that good conduct was something which could be learned from lectures," but they might reasonably suppose that lectures could give some 'tips' on the ways to success in public life and on the new ideas of polite letters which the stress of circumstances had withdrawn from the circumference to the centre of Hellas. All through this part of the book some confusion arises by treating Ἀρετή as another name for good conduct: and this is especially to be regretted as Mr. Sidgwick well points out that the knowledge of the good is not at all the same thing as knowledge of our duty. [The words on p. 24, "those who knew *how to do* just," &c., is a mistranslation which obscures the point in question.] What Socrates was anxious to enforce was that Ἀρετή was not, according to the old conservative doctrine (*e.g.*, of Pindar), a hereditary gift, but a capacity depending upon instruction,—not indeed on purely verbal instruction (as Mr. Sidgwick, falling into what Dr. Bain calls the fallacy of suppressed correlative, seems to think). And it is going too far when on p. 26 an attempt is made by an interpretation of a dubious authority like the 7th book of *Eth. Nic.* to represent Socrates as neglectful of the need of firmness of purpose. What Socrates taught was, as is well said, in p. 31, the "duty of living by consistent theory". What seems to characterise him is the immense fund of realism, which appears in a dislike to abstract generalities and sentimentalism, and makes him bring the Beautiful and Right to the touchstone of the Good, and insist on the relativity of the latter in each particular case. So that when (pp. 29, 30) it is said that he sought for "man's ultimate and abstract good," it may be questioned whether this is not introducing a conception first broached by Euclides and worked out by Plato.

The account of Plato labours (as indeed the limits of a manual almost necessitate) under the effects of the attempt to co-ordinate the several dialogues and thus import into him a greater symmetry of system than is possible for a writer, who (and in saying so, I differ from Mr. Sidgwick) never allows philosophy to pass definitively into the lecture-room. It is an unfortunate and misleading version of the very or real good to call it "good in the abstract": and the same may be said of the phrase "abstract thought" on p. 39. It is doubtfully right to call the "utilitarianism" of the *Protagoras* a transition-stage of Plato's thought, only temporarily held. The conclusion of the dialogue that virtue, both general and special, lies in knowledge, is repeated in the *Phædo*, guarded however by the addition that it is not an exchange of pleasure for pleasure, but the presence of knowledge which makes the 'right

coin' of virtue. Plato is always concerned (not merely in the *Laws*) to show that virtue is happiness; but his contention is that the identity is only complete where virtue attains its full actuality in the wise man. One may find some opportunity for reflection in determining how far Plato ever fully identified virtue with wisdom, or how far he ever ceased to do so. Nor can pleasure be said to be ever so absolutely distinguished from good by Plato, so treated as co-ordinate with it, as Mr. Sidgwick suggests,—at least if we make due allowance for the ambiguity of the word pleasure. And in the account of the cardinal virtues, there is hardly enough notice taken of the fundamental hypothesis of an order on which justice is based, the doctrine of a natural directing authority in reason, with a normal sphere of activity for each function. Lastly, it can scarcely be true (p. 51) that Plato held the knowledge of all particular goods to be implicitly contained in the supreme science of good, if that means (as explained on p. 54) that we can deduce the particulars of human well-being from a knowledge of absolute good.

Mr. Sidgwick does excellently in pointing out the substantial agreement of ethical view between Aristotle and Plato; and he is no less well aware that the Aristotelian ethics is full of superficialities and absurdities, and owes its importance in modern times mainly to the part it has played in giving the framework to later moralists. But he seems unduly to praise Aristotle for the inductive character of his method,—a point which falls in with his disposition to find the analogue of modern induction in the Aristotelian ἐπαγωγή. It is doubtful *induction* to suppose a unity in the chief end of conduct: and when it is inferred that because a piper has a function, therefore man as man has one too, the conclusion only follows on the assumption that man is a member of an ordered system (Q. E. D.). Moreover the whole reasoning is only a paraphrase of Plato. Noting in passing that the rendering of ἕξις by "tendency" seems as defective as that of τέχνη by "technical skill" is commendable, we proceed to notice the remarks that Aristotle does not distinguish in describing liberality between selfish and benevolent expenditure, but that he does recognise benevolence in his theory of friendship. It may be doubted whether "disinterested benevolence" is found even there: whether "altruism" has any place in the Greek theory of virtue. The distinction of the true friendship for good men from that of other kinds is not that the former is disinterested, but that it is founded on a permanent characteristic of the person, not an accidental or external relation. The aspect of virtue on which the Greeks laid stress was its self-regarding character: but the best of their sages always taught that the true self was least affected with the defects of individuality.

Passing on from the ineffectual fluctuations of Aristotle between ideal morality and the laxity of ordinary judgment, Mr. Sidgwick traces the characters of the Post-Aristotelian Schools. He notes the

growing diversity between the morality of the philosopher and that of the common man,—alike in the Stoic who erects an impassable barrier between the one thing needful and all other objects of choice,—the Epicurean who speaks the words of the pleasure-seeking worldling, and yet lives a life of repose amid intellectual pursuits,—the Academic who falls back on mere probability as the basis of duty,—the Sceptic who finds in the laws of his country and in his natural instincts a practical guidance, but without scientific value,—and the Neo-Platonist, who puts as the highest grade of virtue an assimilation to God, transcending even the scientific goodness of the sage. The pages treating of these sects are excellent both in form and matter. There are points on which we think differently from Mr. Sidgwick. The Anti-hedonism of Speusippus he has exaggerated: he does not bring out the common-place character of the καθῆκον, and the Antinomian aspects of the κατόρθωμα: he might have noted (p. 71) that Epictetus gives the name of Cynic to the saints of philosophy; and perhaps a little more might have been made of Marcus Aurelius's conception of man as the 'rational and social animal' and of the mind of the universe as 'social' also.

It is impossible to examine the next sections with the same detail. We have already spoken of the remarks on the contrast between Greek and Christian morality. Mr. Sidgwick follows it up by noting the difference between the philosophic view of vice as due to ignorance and the Christian theology which treated it as due to a perverted will. It is a topic on which generalities are likely to mislead: and one is sometimes tempted to think not merely that the Christian and the Pagan views intermingle, but that the difference between the two sides is sometimes more verbal than real. We cannot stop to note that there is no account of the peculiar ethics of chivalry. Still less can we delay among the English moralists from Hobbes to Bentham, and need only express our admiration of its careful thoroughness. The close of the book fails, we think, to assign to Kant his proper place in the development of English thought. That remarkable disruption in the intellectual history of English ethics which is found in J. S. Mill is only to be explained by the influence, not altogether adequately grasped, of Kant as it filtered through several minds both English and French. It is at least evident that Mill felt the want for a basis to Utilitarianism of a deeper kind than it had yet received. The question of a basis, as distinct from that of the *axiomata media*, is precisely what Kant set himself to answer: and the importance of this clear enunciation of the basis by Kant is what Mr. Sidgwick, hampered by his old antithesis between Intuitionists and Utilitarians, fails sufficiently to realise. He does not fully bring out the sense in which the rational being is an end to or in himself, and he is perilously near misconception when he presses Kant's words into an assertion "that all rules of duty must admit of being deduced from one general principle" (p. 261).

But a full discussion is here impossible: as also of his view that Hegel teaches conscientious effort to be self-deceived, if the individual fail to achieve his aim in harmony with the objective social relations in which he finds himself placed—a view by the way which is not without parallel in Mr. Spencer's assertion that 'conduct that has any concomitant of pain is partially wrong'. Mr. Sidgwick's remarks on freedom of will are good as far as they go; though the statements in p. 254 as to the standpoint of the determinist seem in need of qualification.

In parting company with this book, full of keen analyses and apt apprehensions, if not always free from the defects of its kind, we wish it many editions: and in view of such note the following little errata: p. xx., 6th line from foot, delete *the;* p. 2, 2nd line from foot, for *criteria* read *-on;* in p. 33, line 17, delete *of soul;* p. 48, line 8 from foot, read *Socraticism* (?); in p. 171, line 4, *necessarily;* p. 179, line 17, *startlingly;* in p. 201, note line 13 from foot, insert *to that* after *kind*. We may also add that a few references might be well added, or put instead of the present notes.

WILLIAM WALLACE.

The Teacher's Handbook of Psychology, on the basis of *Outlines of Psychology*. By JAMES SULLY, M.A., &c. London: Longmans, Green & Co., 1886. Pp. xvi., 509.

The Outlines of Psychology (reviewed in MIND 35 by Prof. Adamson) was written, as the title-page showed, "with special reference to the Theory of Education". Sometimes in the midst of the text, but chiefly at the end of each chapter, abundant remarks and reflections were introduced, showing the bearing of the principles of mental science upon the training of faculty and character in the young. The work has been (as it deserved to be) very acceptable to the public,—especially to students,—and it would be a great mistake to suppose that the present *Handbook* is intended to, or possibly can, supersede it. But it has been felt that the *Outlines*, in spite of its modest title, is too long and detailed, and sometimes perhaps too abstruse and difficult, for many parents and teachers, who would gladly see their task in the light of science, but either have not much time to spare, or else lack the special training that is requisite for the more intricate questions of Psychology. For them accordingly the present smaller volume has been produced.

The *Handbook* begins with a discussion of the scope of Education and of its relation to Psychology. After this preliminary chapter the book is based upon and follows generally the course of the *Outlines*, giving a succinct but luminous view of the best scientific doctrine with regard to the senses, perception, the higher intellectual powers, the emotions and volition. But the applications of the science to the problems of Education are no

longer, as in the larger work, separated from the exposition of the science itself by any difference of type or arrangement. Doctrine and precept are fused into a continuous whole, which, assisted by an openly printed page and an effective style, becomes, I must say, extremely readable, considering the nature of the subject. Upon each branch of the subject enough is said concerning the principles of Psychology to serve the ordinary purposes of the educator; and everything is said so simply that no one, however unaccustomed to such inquiries, can fail to follow and understand it. There is no attempt to enter into subtle disquisitions or vexed controversies. The bog-fires of Metaphysic, hardly seen to glimmer on the borders of the demesne, can tempt no wayfarer to go astray. Every sentence is subordinated to the single end of clearing-up the problem how best to train the minds and characters of the young. And the inferences drawn step by step as the book advances, and the suggestions made upon this most important of all subjects, are an admirable example of the application of science to life. Who can help wishing to have been born later, and to share the more enlightened instruction that awaits the next generation?

If I were to take exception to anything in the scientific aspect of this book, it would be chiefly to the treatment of Conception, Judgment and Reasoning, which seems to me too much under the influence of ordinary Logic. But even here what seems to me questionable lies more in the expression than in the thought: and there is, after all, in this part of the exposition some advantage in availing oneself of the terms and distinctions of Logic; since many readers will partly understand them to begin with, and will thereby be more readily familiarised with the abstruser ideas of Psychology. Still this advantage may be bought too dear. In the practical aspect of the book, I am inclined to say that it lays too much stress upon the importance of authority in moral training. But probably few of those for whom the book is intended will think the author's doctrine of discipline overstrict. His treatment of the emotions and sentiments in relation to education, a particularly difficult and important part of the work, seems to me especially good.

It is a striking fact, the sudden turning of so many first-rate minds to the subject of Education; and a great revolution in scholastic affairs, however gradual, will certainly result from it. No subject ought to be so universally interesting. If none seem so tedious to us, it may be because our own education was so bad; or that we have reflected so little about it that new suggestions find in our minds no soil to strike root in; or that the complexity and practical difficulties of it paralyse our faculties: in any case, the more reason for spurring ourselves to the study. There is no subject more beset with popular errors, none in which science is more useful, explanatory and suggestive. Not only every professional educator, but every father and mother (amateur

educators!) ought to have some acquaintance with Psychology. However absurd this seems, I defend it on the ground that nothing else enables one to interpret the faint and fragmentary recollections of having been oneself a child: without which how can other children be known, and, if unknown, how trained? At school I often used to wonder whether the masters had ever been to school, they knew so little of what we boys were thinking, feeling and about to do. I have heard an educated woman say of her baby, squalling of course at six months old,—"I believe he knows he's doing wrong". Heautomorphism, in default of science, is ever the first resource of explanation; *i.e.*, we judge of others by ourselves. Discipline without knowledge, and therefore without sympathy, an outside wooden machinery, hampering and crushing, is the same in schools, in homes and in prisons.

Science is certainly useful: yet it may be perverted by an ingenious mind. It has been urged that, according to the theory of evolution, education must with each generation become less necessary: I suppose, because the amount of inherited faculty grows greater. But this inheritance is only potential: its realisation depends partly on education; and the more of it there is, the more education is requisite. The truth which the above opinion has mistaken is, that the power of education is limited both for good and evil by the nature of a child. But this truth the world did not wait for the theory of evolution to reveal. The notion that character and understanding depend wholly on the experience and training of the individual was never adopted by common sense. It is everywhere recognised that no education, however good, can insure against taking one of the by-paths of the Pilgrim's Progress that man who has some deep ancestral taint—"a bad avidge" one calls it in Cornwall (however that word should be spelt). On the other hand the first rule for a successful educator is to get a good pupil. But this does not conflict with the further truth that the greater natural potency of development which accompanies civilisation, makes the teacher's task not less necessary, but (as far as it goes) more exacting, requiring greater care and skill: since first the subject to be trained becomes more complex and delicate; secondly, the time during which it requires supervision increases; thirdly, the changes occurring in it during that time are more numerous and less predictable; and lastly (not to seek further reasons), the world to which it is to be adapted grows far more complex and exigent. How rapidly the world has changed in the last 300 years, and how little scholastic education has tried to keep pace with it! So much the more desirable is it that the changes now inevitable should be made in the light of scientific criticism.

To the scientific criticism of education Mr. Sully brings every requisite. A wide reputation as a psychologist guarantees the competence of his theoretical knowledge. A deep and varied culture in science, literature and art enables him to survey the

whole field of labour. He has for a long time studied Education as a science, and in so doing has availed himself of all the work of his predecessors and contemporaries both at home and abroad. Whoever wishes to make an exhaustive study of the subject will find in the appendices to his chapters a sort of index to educational literature. Mr. Sully has moreover direct experience of the difficulties of education both in its earliest and most advanced stages. Many of the anecdotes that enliven his book bear the stamp of personal observation. And a humane and serious spirit everywhere dispenses wisdom as well as knowledge.

In this *Handbook* education is of course treated in a broad and general way, covering both the early years of training at home and the later periods at school. But there would be manifest advantages in treating these ages and conditions separately with more specific detail. Again, whilst a work of this sort begins with psychological principles and then proceeds to apply them to education, teachers might be more readily interested by the method of beginning with the particular problems and difficulties of their art, and then exhibiting the principles involved in them; or of beginning with the rules of education that have been empirically collected and handed down, and then testing and evaluating these by scientific analysis. One great difficulty of education is how to deal with the various classes into which pupils fall as to their powers and groups of powers. The same treatment cannot be good for all alike: but how to adapt it to each? We want an Ethology of the Schoolroom, somewhat more discriminative than that ethology of the assembly that Aristotle gives in his *Rhetoric*. After that would come the question, what studies and combinations were suited to each type. But the field of suggestion is wide and the labour therein light.

CARVETH READ.

Musikpsychologie in England. Betrachtungen über Herleitung der Musik aus der Sprache und aus dem thierischen Entwickelungsprocess, über Empirismus und Nativismus in der Musiktheorie. Von C. STUMPF. Leipzig: Breitkopf & Härtel, 1885. Pp. 89.

In this brochure, reprinted from the *Musikalische Vierteljahrsschrift*, Prof. Stumpf clears the ground for his systematic exposition of the psychological basis of music in the second volume of his *Tonpsychologie*. That in considering previous theories of musical expression and musical effect he should single out English writers, is a circumstance that no contributor to this Journal can object to. It may seem odd at first sight that the country which for more than two centuries has played a subordinate *rôle* in the history of music should turn out to be the one most prolific of late in speculation on the nature and sources of musical delight. But

in truth England, though supplying but few great composers, has been growingly receptive and appreciative of new musical work. This fact, coupled with the proficiency of the country in psychological reflection, may serve to account for the prominence of musical speculation in its recent literature. The attraction of the subject for Englishmen is illustrated by the fact that the two most eminent representatives of evolutional psychology, Mr. Spencer and Mr. Darwin, have each devoted special labour to the problem of explaining the emotional effects of music. Neither of these writers apparently lays claim to a technical knowledge of the subject, and it would seem that in their case the attraction of the theme lies in its peculiar obscurity and in its intimate connexion with the more general problems which they are directly concerned to resolve. In the case of other writers, however, and notably Mr. Edmund Gurney, the impulse to account for the power of music may be seen to have sprung out of a long and close study of the laws of musical structure and the wide variety of effect obtainable from accepted forms of composition. And thus it has come about that in attempting a critical estimate of recent musical psychology Prof. Stumpf finds himself apparently compelled to single out English writers for special notice.

After a brief *résumé* of earlier English writings on the subject, our author proceeds to expound and criticise the theory of Mr. Herbert Spencer as the first attempt to apply the new doctrine of evolution to the problems of music. The leading idea of this theory is that music is an idealised speech. This idea, we are told, is by no means original. Independently of the writings of antiquity and the Renaissance on the connexion between speech and music, the derivation of music from language was in vogue in France from the middle of the last century to the second decade of the present. A short sketch of such earlier forms of the theory greatly adds to the value of Prof. Stumpf's essay, though he seems to exaggerate the points of affinity between Mr. Spencer's doctrine and that of writers like Rousseau and Diderot. The one writer who, according to this historical *résumé*, really anticipated Mr. Spencer was G. A. Viloteau, who in 1807 published two stout volumes on the analogies of music with the arts that have as their object the imitation of language. Of the correctness of this theory Prof. Stumpf takes much the same view as Mr. Gurney, whose strictures he here reproduces approvingly. Music and speech are, he tells us, sharply differentiated from one another by the circumstance that the intervals of the one are fundamentally unlike the variations of tone of the other. In speaking, a slight shifting of pitch, say a quarter tone, makes no difference in the effect, whereas in rendering a musical composition such a change would instantly be felt to be fatal to the desired effect. A singing manner of speaking instead of being effective is commonly pronounced disagreeable. Not only so, speech is accustomed to move through what seem to our ear continuous transi-

tions. And it is impossible to explain historically the development of modern musical intervals out of these slight movements of tone in speech. The hypothesis of a *tertium quid* between singing and speaking, such as has been attributed to the Greeks and other early peoples, seems therefore to our author to be an absurdity. While, however, denying that music is an outgrowth from language, Prof. Stumpf allows more weight than Mr. Gurney to the effect of analogies between the two when they are both in existence. In vocal and even in instrumental music he recognises the transference of feelings from the region of emotional language. And his fuller technical knowledge enables him to add that the rules of musical execution, especially in the case of the violin, were developed under the influence of the perception of these analogies. At the same time these links of association between speech and music cannot be said to explain the whole or even the main charm of music. This has a purely musical origin, *viz.*, the combination of intervals in certain agreeable forms.

Prof. Stumpf next examines my own contributions to the psychology of music. The attempt to combine Mr. Spencer's theory of musical expression with Helmholtz's doctrine of musical sensation seems to our author a singularly unhappy one. The recognition of intrinsically beautiful aspects of musical combinations makes it unnecessary, he thinks, to call in the aid of associations with speech, which moreover ought, *ex hypothesi*, to lose more and more of their effect as the art of music develops. The writer directs his criticism more especially against my account of the effect of musical harmony. He insists on the necessity of distinguishing between the sensation and the feeling of harmony, the former of which is always the same for a given interval, whereas the second varies considerably according to the special connexion in which this combination appears.

Having disposed of the speech-theory Prof. Stumpf turns to the doctrine of Mr. Darwin, according to which music owes its effect to the fact of its being an outgrowth from the vocal accompaniments of the wooings of our semi-human ancestors. It follows from this, says our critic, that the emotional power of music must be continually declining. He then proceeds to examine the theory. He objects in the first place that the basis of fact is wholly inadequate. Animal sounds serve other purposes than that of alluring the female, *e.g.*, warning. And if we seek to derive musical effect from animal experience, why should we not take into account these other functions, more particularly the part played by sound as the expression of mere delight? Moreover the instances of wooing sound relied on by Darwin are not drawn from animals in the same line of development as man, whose immediate predecessors, indeed, appear to be singularly backward in the production of musical sounds. Again, says Prof. Stumpf, Mr. Darwin is compelled to postulate that certain sequences of tone are originally agreeable while others are

disagreeable; but if so, what is to hinder this agreeable effect from reaching the intensity of what we recognise as musical delight? There are, it is true, grounds for thinking that this delight is not wholly the immediate accompaniment of melodic combination, but if so, it would be better to seek the mediate link in the mental life of the individual than in the problematic experience of remote sub-human ancestors. Even on its own ground the Darwinistic theory encounters serious objections. If the history of the individual epitomises that of the race we should, according to Darwin's account of musical delight, expect this to be much greater in the child than in the adult. If, further, we inspect the quality of musical feeling we find that it contains little if any trace of those voluptuous sensations which according to Darwin make its chief ingredient. The emotional effects of music are too various and uncertain to be explained in this easy manner. As a final objection, our critic urges that the so-called animal music cannot strictly be regarded as music in our sense. He thinks that the attempts to render the song of birds, &c., in our musical notation are forced. So far as we can judge, animals find their joy in tones as such and not in intervals. Here Prof. Stumpf seems to me to be less impartial than usual. If, as seems certain, there is a predominance of good musical intervals in the song of our favourite warblers, this ought surely to count as evidence of a genuine musical taste.

The last part of the essay is taken up with an examination of Mr. Gurney's important work, of which it seems he had knowledge before the present writer in this Journal ventured to call his attention to the treatise. As might be expected from his attitude towards the pure evolutionists, our author is to a large extent in sympathy with Mr. Gurney's views. He recognises in him a *Fachmann* who is competent to deal with the subject. More particularly he evidently approves and enjoys the Englishman's fine and penetrating criticism of received theories. Yet with the main outcome of Mr. Gurney's reasonings he is wholly at variance. To pronounce musical impressions to be unanalysable and to fall back on the hypothesis of a unique musical faculty appears to our author to be to abandon the musical problem altogether. Mr. Gurney's "crass nativism" is subjected to a severe criticism in which the writer displays his gifts of skilful analysis and nice logical appreciation at their best. And he is no less forcible in trying to show that Mr. Gurney, who recognises in the delight of music something more than a merely sensuous pleasure, *viz.*, the appreciation of melodic form or ideal movement, has no excuse for following Mr. Darwin in his recourse to the emotional experiences of primitive man. Of the difficulties of combining these two points of view Prof. Stumpf makes the utmost. It is in Mr. Gurney's version of the Darwinian theory that the contradiction of a growing instead of a declining musical delight as the art advances becomes most patent and

unavoidable. On the details of Mr. Gurney's exposition, such as the difference between music and architecture, our critic has pertinent and valuable observations. He urges that, though it is impossible to receive the different sensuous moments of tune, melodic interval and rhythm in isolation, this does not prevent our approximately estimating the emotive value of each. He concedes much to Mr. Gurney as to the organic unity of each new musical creation, and yet he shows how in every case we are able to some extent to refer the pleasing result of the whole to definite elements. The source of Mr. Gurney's error, says our critic, is a strong scepticism as to the things of psychology, and along with this a credulity as to the things of acoustics. In order to establish this more fully, he examines Helmholtz's theory of harmony, which is in a measure accepted by Mr. Gurney as by myself. He tells us that this doctrine has for the last twenty years excited more and more opposition in Germany, and that it will finally have to be given up. Though the upper or partial tones have a determining influence on the timbre of a tone, they have none or only a very subordinate one on consonance and the feeling of harmony. According to Prof. Stumpf, consonance consists in the tendency of tones to coalesce (a "Verschmelzungsverhältniss"), and the pleasurable feeling of harmony springs in the first place out of the perception of this relation, though it is reinforced by other ideas and feelings that attach themselves to this perception. But the author's own theory is too briefly suggested to be quite intelligible.

As may easily be seen from this brief sketch of Prof. Stumpf's argument, its drift is to lift musical enjoyment above the level of mere sensuous pleasure, and at the same time to rescue it from the domain of the unconscious, whether conceived of as obscure reminiscence of ancestral feeling or as a process of unconscious computation. Prof. Stumpf has a wholesome love of clear daylight and clings to the belief in the explicability of things. In dealing with the mysteries of musical emotion he has had to subject this conviction to the severest strain. He seems to confess that we can at present only very imperfectly discern the different threads of consciousness that are intertwined in the impression produced by music. And in spite of his direct attack on Mr. Spencer's theory, he appears, as we have seen, to attribute no inconsiderable part of the effect of music to associations with speech. The main point of difference between him and Mr. Spencer seems to be that he would set little store by heredity, but view such associations as built up during the life of the individual by means of a separate experience and comparison of each. Here Prof. Stumpf is taking up safe ground. Yet it strikes one as arbitrary to exclude altogether the co-operation of inherited association here. The common view is that primitive speech exhibited quasi-musical changes of tone much more abundantly and distinctly than our modern highly evolved speech; and it

seems not improbable that vague reminiscences of such more marked vocal expression enter into the effect of music on the modern mind. The fact that the later music has in its elaborate structure wandered far from its primitive pattern is no serious objection to this view; for, as Prof. Stumpf points out, our music distinctly preserves elements, such as rising and falling of pitch, crescendo and diminuendo, which have a clear analogy to the movements of emotional speech. It strikes one further that Prof. Stumpf disposes too lightly of the supposition that music gradually disengaged itself from speech by a process of selecting and fixing the intervals which dimly disclosed themselves in primitive emotional utterance. One may safely say that much more definite knowledge of the manner in which primitive man spontaneously employed and inflected his voice is needed before one can confidently pronounce a negative here. And in this connexion I may call attention to a point which our author seems to have overlooked, *viz.*, the well-marked musical character of the first baby-vocalisation. The la-la-ing of the infant suggests that uncivilised man may have begun with a rude kind of song before he found his way to our more monotonous style of articulation.

This essay makes one impatient to know how Prof. Stumpf will deal with the subject of musical emotion when he proceeds to take it up in his systematic exposition of musical psychology. For after all the brochure is in the main a criticism, and the author's own views are only vaguely indicated. As a piece of painstaking inquiry into current theories it deserves the highest praise. Prof. Stumpf has mastered the views he examines, and no one can charge him with serious misrepresentation. And his criticism, while incisive and unsparing, is tempered with a true courtesy.

JAMES SULLY.

VII.—NEW BOOKS.

[*These Notes (by various hands) do not exclude Critical Notices later on.*]

Psychology. The Cognitive Powers. By JAMES M'COSH, D.D., &c., President of Princeton College. London: Macmillan & Co., 1886. Pp. vii., 245.

This is the first volume of a work on Psychology which the author hopes to complete by a second on "the Motive Powers of the Mind, including the Conscience, Emotions and Will" (partly anticipated by his work on the Emotions). "The study of the human mind in an inductive manner" leads us, he thinks, "to Realism, which in a rude state was the first philosophy, and when its excrescences are pruned off will be the last." This realism is qualified by the stress laid on the limited character of our "original" as distinguished from our "acquired" perceptions and memories; and no difficulty is felt, for example, in incorporating the results of modern investigations of sense-perception from Berkeley onwards. In the Introduction (pp. 1-17) the subject and method of study are defined, and the traditional terminology of mental "faculties" and "powers" is defended with qualifications. The author then goes on to deal, in three Books, with "The Simple Cognitive or Presentative Powers" (pp. 18-86), "The Reproductive or Representative Powers" (pp. 87-207), and "The Comparative Powers" (pp. 208-45). Under the second head he gives an account of the laws of association. Two "primary laws" are recognised,—"contiguity" in space and time, and "correlation". The eight "relations" which may form the ground of association are considered in detail in Book iii. Within the scope of the "comparative powers," and among those especially of "the faculties which discover the relations of Identity, Comprehension and Resemblance," are brought the "discursive operations" of "Simple Apprehension, Judgment and Reasoning" (c. iii.).

The Social Problem in its Economical, Moral and Political Aspects. By WILLIAM GRAHAM, M.A., Professor of Political Economy and Jurisprudence, Queen's College, Belfast, Author of the *Creed of Science.* London: Kegan Paul, Trench & Co., 1885. Pp. xx., 479.

This eloquent book (divided into four parts—"The Social Problem and its History," "The Existing Distribution of Wealth and Work," "Property and Inequality of Wealth," "Special Remedies") does not properly fall within our province, but may be mentioned here because of its main conclusion that all conceivable "remedies" for the ills that threaten society (as never before) with universal collapse, run up, in the author's view, into moral considerations—"turn finally on the question, Can man be made morally better?" and also because of the work he has previously done of a more directly philosophical cast. Apparently he has now forsworn his earlier allegiance, for he gives it as one of the signs of hope for the future that "Philosophy—dropping her mill-horse round of thrashing exhausted metaphysical issues—is turning her eyes to earth, is condescending to regard that remarkable entity called Society; a thing well worthy her regards if only for a change, now that long familiarity with the Absolute must at last have produced a sense of monotony from want of variety" (p. 466). This is somewhat rhetorically said, like what is earlier (p. 21) remarked of the "metaphysical" vagaries of "modern prophets . . . . from Hobbes and Locke to Bentham, Mill and Carlyle".

The Philosophy of Religion on the Basis of its History. By Dr. Otto Pfleiderer, Professor in the University of Berlin. Translated from the German of the Second and greatly enlarged Edition by Alexander Stewart, M.A., and Allan Menzies, B.D. Vol. I., "Spinoza to Schleiermacher". London and Edinburgh: Williams & Norgate, 1886. Pp. xii., 340.

Dr. Pfleiderer's important work, in its second enlarged edition, has so lately (in Mind, Vol. x. 285) been made the subject of Critical Notice, that it is enough to simply welcome this first instalment of an English rendering of it. The translators have brought trained intelligence to their task, and executed it (so far as we have been able to test) with exemplary care. The translation will be in three volumes, the handiness of which should make up for abruptness in the division (substituted for the natural bisection of the original).

Scientific Romances. No. III. "A Plane World"; No. IV. "A Picture of our Universe". By C. H. Hinton, B.A. London: Swan Sonnenschein, Lowrey, 1886. Pp. 129-159; 161-204.

Mr. Hinton here continues the series of scientific speculations (with a more or less philosophical purpose) begun with the pieces noted in Mind 39, 40. As in his earliest paper "What is the Fourth Dimension?" his thoughts here turn upon the subject of "a space higher than our own," and, regarding the subject as one that "is becoming felt as serious and fraught with much that is of the deepest interest, not only as a scientific problem, but in other ways also," he seeks to work up to it first by a detailed consideration of a simplified plane world (which others, with various motives, have before imagined), and then by a free conception of the world of our actual experience.

La Psychologie de l'Enfant; L'Enfant de trois à sept Ans, par Bernard Perez. Paris: F. Alcan, 1886. Pp. xi., 307.

In this volume M. Perez follows up his well-known study, *Les trois premières Années de l'Enfant*, and completes his psychological account of the child. Like the earlier work it is divided into chapters dealing with distinct psychical processes, as Memory, Imagination, Abstraction, Attention, the Feelings. The author clearly recognises the special bearing of this period of mental development on the art of Education, and throughout he seeks to give a practical turn to his exposition of psychological principles. At the same time he tells us that his principal aim has been psychological and not pædagogical. Critical Notice will follow.

La Criminalité comparée. Par G. Tarde. Paris: F. Alcan, 1886. Pp. vii., 214.

The author has here brought together some of the very interesting and striking discussions on the phenomena of crime which he has from time to time published in the *Revue Philosophique*, and, in view of the practical urgency of the subject in France as in other countries at the present time, has developed them into the form of a relatively complete treatise. He mentions, however, the fact of importance, for those who wish to study the subject in minutest detail, that his very enterprising publisher is about to issue a (French) translation of Lombroso's *L'Uomo delinquente* (3rd ed., 1884), the most remarkable product of the Italian school, which has so long been distinguished for its forward inquiry in this particular field. M. Tarde takes up an independent position as regards Lombroso's thesis that the modern criminal is the atavistic representative of the primitive savage, and also otherwise; writing always as a man with a philosophical

point of view of his own. "Criminology" he regards as the complement or reverse of Political Economy (in its newer socialistic form), both falling within the general doctrine of Sociology. The little treatise is worthy of all attention.

Il Cristianesimo primitivo. Studio storico-critico di BALDASSARE LABANCA, Professore di Filosofia morale nella Università di Pisa. Torino: E. Loescher, 1886. Pp. xxiv., 448.

The chapter of most philosophical interest in this work, which is intended chiefly as a historical and not as a philosophical study, is the sixth (pp. 209-268), on the relations of ancient philosophy to primitive Christianity. The author has in view to follow up this volume by another, dealing with "Christian Philosophy in relation to primitive Christianity, in its most important problems, historical and scientific". The book is inscribed "to Giordano Bruno, the martyr of free thought".

FRIEDRICH UEBERWEG'S *Grundriss der Geschichte der Philosophie.* Erster Theil: "Das Alterthum"; Zweiter Theil: "Die mittlere oder die patristische u. scholastische Zeit". Siebente, mit einem Philosophen- u. Litteratoren-Register versehene Auflage bearbeitet u. herausgegeben von Dr. MAX HEINZE, ord. Professor der Philosophie an der Universität zu Leipzig. Berlin: E. S. Mittler, 1886. Pp. ix., 360; viii., 305.

The first two parts of Ueberweg's standard work, last issued in 1880-1, here reach their seventh edition. Prof. Heinze, who has now so long been charged with the laborious task of keeping the book on a level with the most recent special inquiry in all parts of the field, has worked again in an effective manner, incorporating the necessary references to the newer literature, often with critical observations; and yet, in the case of Part i., managing, by occasional curtailments and omission of antiquated references, to come off with an increase from the 6th edition of only some 20 pages. Part ii. is even less extended in the gross, but now compasses its fifteen centuries much more adequately than when Ueberweg first went over them in but two-thirds of the space. The editor here proceeds upon original study of his own as well as the work of others; he regrets that he has been able to utilise vol i. of A. Harnack's new *Lehrbuch der Dogmengeschichte* only for his final revise.

Wörterbuch der philosophischen Grundbegriffe. Von Lic. Dr. Fr. KIRCHNER ("Philosophische Bibliothek," Hefte 314-9.) Heidelberg: G. Weiss, 1886. Pp. 459.

This work is by the same indefatigable and versatile author whose *Catechism of Psychology* and (so-called) *Catechism of History of Philosophy* have been noticed in former Nos. of MIND. It was not possible to judge as favourably of the second of these manuals as of the other, written so obviously as it was in very hot haste. The present work, in which the author uses over again his historical knowledge in the altered guise of a dictionary of philosophical terms, also gives the impression of being somewhat overrapidly put together. It has been first issued in the form of three double-parts of the cheap and varied collection of philosophical masterpieces (and of commentaries on them) published under the direction of J. H. v. Kirchmann for a considerable time past. Of the usefulness of a handy philosophical dictionary there can, as the author rightly says, be no question; and he has shown himself, were it only by the very range of his former writings, by no means devoid of the qualifications for writing one that should really *prove* useful. He states his objects to have been—(1) to treat the most important philosophical notions, (2) to aim at the utmost possible

brevity and precision, (3) to track all the more important notions along the course of the history of philosophy. What strikes one most in the execution is the inclusion of so many words of merely popular interest, to the exclusion of not a few 'words of art' for which the philosophical student will look in vain : thus, though there is an article *Beispiel* giving *Exemplum* as synomym, *Exemplum* gets no mention in its place (where it would be looked for) nor does the original *Paradeigma* appear to get any mention at all. *Paradeigma* suggests the parallel *Enthymema* to the Aristotelian student, and here one is surprised, among many (? too many) meanings assigned, to find no reference to Aristotle's original meaning of the word. In another vein, *Association* cannot be said to be very adequately touched on the historical side when we are only told that "already Plato and Aristotle speak of it, but first the later psychology, especially Herbart (1776-1841), has investigated it thoroughly". Of Hartley, Hume and all the English, not a word! Yet there are many interesting things brought together in these pages. The author should gird himself to a very strenuous revision and recasting in that second edition to which he looks for reparation of shortcomings.

Das Problem der Gewissheit. Grundzüge einer Erkenntnisstheorie. Von Dr. Franz Grung. Heidelberg: G. Weiss, 1886. Pp. 205.

This work on the theory of certitude, which is to appear shortly in Norwegian, the author's native language, as well as in German, is divided as follows:—i. "Certitude" (pp. 1-29); ii. "Historical Survey of the doctrine of Certitude," from antiquity to the most recent times (pp. 30-100); iii. "The Elements of Certitude," including certitude of (1) perception, (2) thought, (3) memory (pp. 100-153); iv. "The Forms of Development of Certitude," including (1) "immediate," (2) "scientific," (3) "personal" certitude (pp. 154-184); v. "The Criterion of Certitude" (pp. 185-205). The author finds that certitude is always "a combination of will and reason". The power of the will in relation to the activity of thought is, however, entirely negative; it cannot create, it can only hinder. This negative influence of the will does not proceed from "a single arbitrary decision," but from "will in the immediate feeling of its interest". Since will cannot be directly controlled by knowledge, but only by another act of will, the question becomes, "What direction ought to be impressed on the voluntary activity in order that truth may be attained?" The answer is that the will must be cleared of all special interests and directed only by a sense of the interests of mankind as a whole. There is no general criterion of truth, for "our knowledge may always be an illusion," but only of "certitude". The criterion of certitude is the absence of self-contradiction. The logical laws are the test of "the form of certitude"; the test of its content is experience. How then shall we resolve the conflicts that have arisen, in the philosophical schools, between experience and logic? In this way: the criterion must be finally fixed as "absence of contradiction of given experiences". To the "centrifugal tendency" that carries the mind beyond the limits of the special experiences in question at the time into the realm of general presuppositions, of "concepts," is to be opposed the "centripetal tendency" constituted by the mind's feeling of its limitation. There may remain "contradictory concepts," and certitude is not destroyed; but there must be no "contradictory experiences".

Moderne Versuche eines Religionsersatzes. Ein philosophischer Essay von Dr. H. Druskowitz. Heidelberg: G. Weiss, 1886. Pp. 90.

This is a critical exposition of some modern attempts to find a "substitute for religion" which shall be to the mass of mankind what the historical

religions formerly were. The author lays down as a condition of any successful attempt of this kind that it shall render possible an attitude towards the universe that combines the feelings of "dependence," "reverence" and "trust". Man is not to be regarded as alien to nature but as a part of nature. The attempts examined are those of Comte, Mill, Feuerbach, Nietzsche, Duboc, Dühring and W. M. Salter (of Chicago). Different elements of the complete conception are found in each writer; but no attempt seems to the author quite successful as a whole. All the writers discussed regard themselves as seeking "a new religion" instead of "a substitute for religion". This last, however, is the correct name for the object of search. Again, each attempt has the limitations of the religions of the past in that it is directed too exclusively to an ethical ideal. The final conception that is to take the place of religion must be that of a complete, not merely an ethical, ideal, pursued for its own sake (as being the end of Nature, of which man is part) and not for the sake of the happiness to be attained.

Ein neuer Paulus. Immanuel Kant's Grundlegung zu einer sicheren Lehre von der Religion, dargestellt von Dr. HEINRICH ROMUNDT. Berlin: Nicolaische Verlags-Buchhandlung (R. Stricker), 1886. Pp. viii., 309.

This "simplified and extended exposition of Kant's *Religion within the limits of Pure Reason*" is a sequel to the author's books on Kant's theoretical and practical philosophy (see MIND, Nos. 40, p. 626 and 41, p. 134). Here Dr. Romundt's object is to demonstrate Kant's essential agreement, in teaching the doctrine of "the justification of man, not by works but by *practical* faith in the archetype of morality in its complete perfection," with "the German Church reformers of the 16th century, and not only with them but also with the apostle Paul". The great achievement of Kant was to give Pauline Christianity a secure philosophical foundation. His religious doctrine is not open to the objection that it "remained mere morality," but it certainly begins with morality. The conclusion of Kant's whole philosophy of religion, in his own words, is "that it is not the right way to proceed from grace to virtue, but rather from virtue to grace" (p. 292).

Religionsphilosophie auf modern-wissenschaftlicher Grundlage. Mit einem Vorwort von JULIUS BAUMANN, o. ö. Professor an der Universität Göttingen. Leipzig: Veit & Co., 1886. Pp. vi., 230.

This posthumous work of an anonymous author is briefly introduced by Prof. Baumann, who points out that "all formal conditions of scientific investigation" are fulfilled in it, and at the same time draws attention to the original qualities which make it fit to act as a "ferment" in the present state of religious thought. The author's principle of explanation of religions is the disposition of man "to comprehend all things instinctively in analogy with himself". An examination of the nature of man, as revealed by "physiological psychology," shows how the religious interpretation of nature took the different historical forms that it has actually taken. From the scientific point of view, the essentially subjective conception of nature that is characteristic of all religions has no significance. This does not mean, however, that it is valueless, but only that its value is of the "æsthetic-practical," not of the scientific, order. Just as we do not make the attempt to cease hearing sounds or seeing colours although we are convinced that they are there only in feeling, so the scientific view of religion must not be allowed to destroy religious ideas as they exist psychologically. To attempt to *see* the heavenly bodies in accordance with the Copernican instead of the Ptolemaic theory would be profitless, and indeed injurious; and so it is for anyone to try to check the tendency to religious

mysticism when it is present, or to create it when it is absent. Each individual should give himself up to his own (admittedly) subjective religion as to the contemplation of works of art or to the enjoyment of nature or of poetry; but with a view to the good practical effect on himself of belief in that conception of nature that he prefers; and keeping in mind, whenever it is necessary, the true scientific interpretation of religious feeling. Prof. Baumann tells us, as the only fact that has been communicated to him with regard to the author, that by not detaching himself from "religious Protestantism" he furnished an example of that "doubleness of the practically immediate and theoretically reflective attitude towards religion" which (he goes on to remark) in India is not unheard of but is at present somewhat surprising in Germany.

Ideale und Güter. Untersuchungen zur Ethik. Von Dr. G. Class, o. Professor der Philosophie in Erlangen. Erlangen: A. Deichert, 1886. Pp. vi., 188.

The author aims at laying the groundwork of an "ethics" which shall be not merely a "moral philosophy" but a "philosophy of all spiritual life". Under ethics, in this extended sense, come as "subordinate disciplines" (1) philosophy of religion, (2) philosophy of law and morals, (3) philosophy of civilisation. The author's ethical theory is "in the widest sense a theory of the good". "Good" consists in the regulation of life in accordance with commands embodied in religion (and derived from whatever theory of the universe is held to be true), in human law, and in the requirements of civilisation (especially the requirement of the subordinated activity described by the term "work" in its economical sense). "Evil" consists in the attempt to attain freedom by revolt from any of these conditions. Besides this distinction, which marks off the ethical sphere from that which is outside ethics and opposed to it, there is a distinction within ethics itself—that of "higher" and "lower". The "lower" or "natural" activities are those by which various "goods" are sought as means to personal satisfactions; while the "higher" activities are those that are directed towards "ideals," which are ends-in-themselves. There are therefore two classes of ethical imperatives: (1) conditional imperatives that command the pursuit of "goods"; (2) unconditional imperatives that command the pursuit of "ideals". "The object of ethics is accordingly the sum of internal and external work through which individual personalities bring about the supremacy of the higher over the lower." The ultimate (never completely attainable) end of ethics is "an equilibrium of the spiritual life on its practical and theoretical sides". On the practical side, that which is highest is a "pure ideal action" done for its own sake; on the theoretical side, "pure thought".

Ideen zur praktischen Philosophie. Von Richard Wallaschek. Tübingen: H. Laupp, 1886. Pp. iv., 156.

This book is divided into two sections, the shorter of which (pp. 1-44) deals with "Religion," the longer (pp. 45-156) with "Morals". In the first section, from consideration of the history of religions, the author arrives at the conclusion that "Religion is nothing else than the sum of those primary germs which in their development and independence present themselves to us as Art, the State, Morality and Law, Philosophy and Science". The second section consists chiefly of criticisms of ethical doctrines, especially those of Locke, Kant, Herbart, Hegel and Lotze. The author argues against the retention of the term "freedom" in morals; contending that, since morality implies constraint by something external, "freedom and morality are incompatible". The most satisfactory outline of an

ethical system up to the present time appears to him to be that of G. H. Schneider in *Der menschliche Wille;* but he finds much to criticise here also. At the end of the volume the domain of ethics is marked off from that of æsthetics. It is found that "the æsthetic and moral moments develop in like progression, and there is only then a perfect moral state when there is a perfect æsthetic state". The first stage of development of the spirit, therefore, must be that which contains both art and morality in germ. This, as has already been seen, is religion. When all the products of religion are completely developed, it ceases to exist as a separate thing.

Zur Lösung des metaphysischen Problems. Kritische Untersuchungen über die Berechtigung und den metaphysischen Werth des Transcendental-Idealismus und der atomistischen Theorie. Von H. Bender. Berlin: E. Mittler, 1886. Pp. viii., 176.

The author's object is to revise Spinoza's doctrine of substance in the light of the Kantian criticism, and at the same time to incorporate with it modern "atomism". He begins with a justification of the thing-in-itself as a legitimate part of the Kantian doctrine. "The true thing-in-itself," he concludes, can only be Spinoza's "substance," "the most perfect being"; of the nature of which, however, as the Kantian criticism has proved, there can be no positive knowledge (pp. 1-43). An examination of Kant's doctrine of the ideality of space and time (pp. 44-93) leads him to "a moderate idealism". Space and time are to be regarded as "forms of representation," but also as "forms of the representation of objectively real relations". "The atomistic doctrine" is found to be logically justified as a scientific conception, but to require completion by a (non-materialistic) metaphysics (pp. 94-142). From the metaphysical point of view, it is "the scientific bearer" of that "uniformity of law" by which the one substance, the *natura naturans* of Spinoza, manifests itself in all the changes of particular things. Finally, the author contends that the three "original categories" are "substantiality, causality, and reciprocal action" (pp. 143-76).

Optische Häresien. Von Robert Schellwien. Halle a. S.: C. E. M. Pfeffer (R. Stricker), 1886. Pp. iv., 98.

The author, whose philosophical doctrine is set forth in works noticed in Mind, Vols. ii. 134 and iv. 602, here contends for the objective existence of colour as a quality of things, and not (as it is often represented by physicists) a mere "subjective" product of the interaction of organism and ethereal vibrations. Mechanical movement, he contends, has no claim to be regarded as objective in a special sense. The sensible world is throughout a manifestation of the real world. To attempt to explain colour by interaction of ethereal movements and of the organism (or of "consciousness") is illusory. "Light and colour *are*, are objectively effects and modes of existence of things." As such, they must be explained on objective grounds. Experiments on polarisation and contrast lead to the conclusion that not only different colours but also 'bright' and 'dark' form "a polar contrast". This contrast physiological optics tries to explain on subjective grounds, detaching it from its objective basis. The true explanation is that in the objective reality of things there is a "genetic and polar process" through which light proceeds from darkness and darkness from light; and in the transitional stages of this process colour originates, "which itself again belongs to a polar contrast, according as it is transition from light to dark (blue and violet) or from dark to light (red and yellow) or the union of these contraries in the bright mean (green) or in the dark mean (purple)" (p. 73). The consciousness of colour leads us back immediately to its real

basis. For "the content of consciousness is the thing-in-itself"; being is in its essence consciousness; and "our physical life and our psychical activity are only different functions of the same substantial cause".

Beiträge zur Analyse der Empfindungen. Von Dr. E. Mach, Professor der Physik an der deutschen Universität zu Prag. Mit 36 Abbildungen. Jena: Gustav Fischer, 1886. Pp. vi., 168.

Ueber die Psychophysik. Physikalische und erkenntnisstheoretische Betrachtungen. Von Dr. Adolf Elsas, Privatdocenten der Physik an der Universität zu Marburg. Marburg: N. G. Elwert, 1886. Pp. vii., 76.

Prof. Mach's present series of papers continues his psychophysical work by investigations on the sense of space, of time and of tone. He here contends for a "principle of the complete parallelism of the psychical and physical"; which may, if we like, be accepted merely as "a heuristic principle," but must in any case be postulated. His mode of conceiving this principle requires "proportionality of stimulus and sensation," and so determines the rejection of Fechner's logarithmic law (p. 38). It was, however, from the *Elemente der Psychophysik*, as he tells us, that he received, twenty-five years since, the most powerful impulse towards investigations such as these. The present researches are preceded and followed by sections dealing with the more general aspects of the author's work. Scientific conceptions, he holds, may be viewed as "economical means," that is, means of comprehending natural phenomena with the least expenditure of labour. He notes (p. 141) the resemblance of this view to that which is developed by Prof. W. James in his article on "The Sentiment of Rationality," in Mind, Vol. iv. 317.

Dr. Elsas, criticising Fechner's law in detail from the point of view of mathematical physics, arrives at the conclusion that it is not correctly deduced. Further, he contends that a "psychophysics," in Fechner's sense, is impossible. Feeling is in no way an object of scientific knowledge; "it does not belong to nature; it has for the mathematical physicist no reality; it does not allow itself to be treated mathematically as a quantity".

Leo Hebræus, ein jüdischer Philosoph der Renaissance; sein Leben, seine Werke und seine Lehren. Von Dr. B. Zimmels. Breslau: W. Koebner, 1886. Pp. 120.

This is an account of the Jewish philosopher Don Judah Abarbanel (b. 1460-3, d. 1520-35), better known as Leo Hebræus, whose *Dialogues on Love*, written originally in Italian and afterwards translated into French, Spanish, Latin and Hebrew, have some importance in the history of the Platonism of the Renaissance. An Introduction on "Leo Hebræus and his Times" (pp. 1-15) is followed by sections dealing separately with his life (pp. 16-47), which was even more eventful than the lives of philosophers of the period usually were; his works (pp. 48-66); and his philosophical doctrines (pp. 67-120). Leo was one of the philosophers who tried to reconcile Plato and Aristotle. According to Munk, it was "under the auspices of the Kabbalah" that this reconciliation was attempted; but the author contends that with Leo "Kabbalah" only means "tradition" (as embodied in the Talmud and other post-biblical writings). From the frequency of the expression "intellectual love" in Leo's dialogues, he conjectures an influence on Giordano Bruno and Spinoza (see note, pp. 74-9). In distinction from the Jewish Scholastics, who tried to show everywhere the identity of orthodox Judaism and Aristotelian philosophy, Leo made a division between faith and scientific reason; maintaining the equal truth of both, each in its own sphere (pp. 81-3).

Die Psychologie der Stoa. Von Dr. Ludwig Stein. Erster Band. Metaphysisch-anthropologischer Teil. Berlin: S. Calvary & Co., 1886. Pp. 216.

This first volume of a monograph on the psychology of the Stoics, by the author of *Die Willensfreiheit und ihr Verhältniss zur göttlichen Präscienz und Providenz bei den jüdischen Philosophen des Mittelalters* (see Mind, Vol. vii. 157), leaves nothing to be desired in fulness of information and minuteness of reference. The author regards Stoicism as, in spite of its apparent eclecticism, the most independent school of post-Aristotelian philosophy. This independence is nowhere more evident than in its psychology. The philosophy of Kant, it has been rightly said, knew no psychology. Of the Stoic philosophy precisely the contrary is true; for it is on psychology that its whole system essentially rests (p. 12). In the present volume the subject-matter is treated under the main heads of "Metaphysics" (part i., pp. 1-86) and "Anthropology" (part ii., 87-205). There is also an appendix on "The Microcosm and Macrocosm of the Stoic school" (pp. 205-14). A special feature of the work is that, in addition to the treatment according to the subject, there are detailed studies of the doctrines of the individual chiefs of Stoicism (pt. i. cc. 5-8, pp. 54-86, "Zeno," "Cleanthes and Chrysippus," "The Later Porch"; pt. ii. cc. 11-14, pp. 151-205, "Zeno," "Cleanthes," "Chrysippus," "Middle and New Stoics").

Abriss des Systemes der Philosophie. Von Karl Christian Friedrich Krause. Herausgegeben von Dr. Paul Hohlfeld und Dr. Aug. Wünsche. Leipzig: O. Schulze, 1886. Pp. vi., 210.

This is the first complete edition of K. C. F. Krause's *Abriss des Systemes der Philosophie.* Part i. (pp. 1-95) was published in 1828, and a second edition has since appeared, corrected according to Krause's manuscript remarks. Part ii. (pp. 97-210) has not been printed before. The laborious work of deciphering the MS. and putting it into order has been undertaken and carried through by the editors "in the unshakeable conviction of the imperishable worth of this outline, of the eternal truth of the 'Wesenlehre' generally".

Logik. Von Dr. Friedrich Harms, weil. ord. Professor der Philosophie an der Universität zu Berlin. Aus dem handschriftlichen Nachlasse des Verfassers herausgegeben von Dr. Heinrich Wiese, ev. Pfarrer in Triebusch. Leipzig: Th. Grieben (L. Fernau), 1886. Pp. xii., 308.

Former works of the author have been noticed in Mind, Vols. ii. 133 and iii. 292. This posthumous *Logic* is in two parts, of which the first ("The Conception of Logic," pp. 1-57) is concerned with the relation of logic to general philosophy, the second (pp. 58-269) with the "System of Logic" itself. There follow notes (pp. 270-308) which are for the most part marginalia of the author. His general view is that logic is not merely a propædeutic to philosophy, but is a part of philosophy itself, forming with metaphysics or ontology a "Wissenschaftslehre" distinct from the special sciences on the one hand, and from the remaining philosophical sciences of "physics" and "ethics" on the other. Metaphysics deals with the object of knowledge, with "being," and so with the presuppositions, fundamental conceptions and axioms common to all the "sciences of experience". Logic deals with the same object-matter from its own point of view, which is that of "the knowing subject". Metaphysics, therefore, cannot be independent of logic; for we can only determine the being of an object, what the object is, in so far as we know it. Experience is for logic and metaphysics a unity,—the unity of thought and being. For physics and ethics it is a duality. All experience falls into two kinds, "internal" and "external".

The first kind is the subject of the "historical," the second of the "natural" sciences. "Physics" deals with the general presuppositions of natural science, "ethics" with those of historical science. Formal logic, being for the most part an empirical science founded on observation of the actual process of (verbal) thinking, is only a propædeutic of philosophy. To become a "philosophical science" it must be extended into a general doctrine of scientific method. Psychology and anthropology contain both a propædeutic and an application of philosophy; but they cannot replace systematic philosophy itself, which is a presupposition for applied, an end for propædeutic, philosophy. Logic as philosophical science is divided into the "Doctrine of Elements or Principles," or "Analytic of Knowledge," and the "Doctrine of Method," or "Synthetic". Its "final principle" is the conception of knowledge as a totality or unity; its "real principle" or starting point is "intuition"; then, since thought, starting from intuition, knows truth, which yet is not in intuition itself, a third principle is required, *viz.*, the activity of thought in knowledge (Erkenntnisskraft des Denkens). This determines a threefold division of the "Doctrine of Elements or Principles," treated in section i. of the systematic logic (pp. 60-214). The "Doctrine of Method," which is the subject of section ii., is divided into two parts dealing respectively with "methodic thinking in general" (pp. 215-33) and "the methods of knowledge in the particular" (pp. 234-69). Under this last head comes the theory of inductive and deductive logic as ordinarily treated.

Die Principien der Wahrscheinlichkeitsrechnung. Eine logische Untersuchung von JOHANNES VON KRIES. Freiburg i. B.: J. C. B. Mohr (Paul Siebeck), 1886. Pp. xii., 298.

This is a new attempt to furnish the mathematical theory of probabilities with a logical basis. The author rejects, first of all, the doctrines that would make "subjective probabilities" the basis of calculation; the "degree of actual expectation" being, like intensity of feeling generally, incapable of measurement. That, as logicicians usually say, two events are equally probable when there is no assignable (objective) ground for expecting one rather than the other, is true, but is insufficient to define the characteristic property of numerical probabilities. The principle the author himself proposes as a basis is, "that suppositions stand in a numerically assignable relation of probability when they embrace original fields of play (Spielräume) indifferent and comparable in respect of their magnitude, and that accordingly there result determinate probability-values where the totality of all possibilities can be exhausted by a number of such suppositions" (p. 36). This is described briefly as the principle of "Spielräume". All of the book that is not historical or critical,—the greater portion,—is taken up with the application of it.

Heraklit von Ephesus und Arthur Schopenhauer. Eine historisch-philosophische Parallele. Von GOTTLOB MAYER. Heidelberg: C. Winter, 1886. Pp. 47.

A comparison of Heraclitus and Schopenhauer as regards the theoretical basis of their philosophy, its pessimistic outcome and its determining factors. The author finds that the phenomenalism and pantheism of both philosophers rendered it impossible for them to attain to any true ethics and made their pessimism inevitable.

Lotzes Aesthetik. Von FRITZ KOEGEL, Dr. phil. Göttingen: Vandenhoeck und Ruprecht, 1886. Pp. 138.

An exposition of Lotze's æsthetic views. The author intends at present to give only the outlines, and does not deal with questions relating to the

special arts. The chief source for his exposition has been the *Geschichte der Aesthetik in Deutschland* (1868), but he also makes full use of references to æsthetic questions in Lotze's other works.

Het Vraagstuk van den zedelijken Vooruitgang. Door Mr. M. C. L. Lotsij. Eerste Stuk: Begrip van Zedelijkheid. Utrecht: J. L. Beyers, 1885. Pp. v., 139, and (Appendices) xxxi.

The author showed the quality of his work some years ago in an original and vigorous commentary on the philosophy of Spinoza (see Mind, Vol. iv. 431). The present book (of which only the first part is yet published), is an endeavour to construct a theory of ethics on the footing of scientific psychology. The author's view of morality is determinist, empirical, and in a certain sense egoistic and subjective. It is distinctly not utilitarian; he seems to regard J. S. Mill's utilitarianism, for example, as an illogical compromise with the commonplaces of unscientific thinking. For what he calls "apriorism" in every form he has nothing but contempt. Indeed this book, like its predecessor, is not a little disfigured by the constant disparagement of Kant, who is classed as "utilitarian from top to toe". Certainly it may be argued that the final cause of Kant's categorical imperative is in ultimate analysis not distinguishable from the final cause of human action expressed or assumed by the systems commonly known as utilitarian; but to call Kant an utilitarian on the strength of this does not tend to clearness of either historical or philosophical conception. In rejecting utilitarianism, the author does not accept egoistic hedonism. Like Mr. Leslie Stephen, he regards morality as essentially a function of man's social nature. It is curious that he does not mention either Mr. Stephen's work or Mr. Herbert Spencer's *Data of Ethics:* he gives some pages to criticism of M. Guyau, and is fond of citing Prof. Bain, Dr. Maudsley and Buckle (whom the printer has turned into "Buccle"). Judging by the company he keeps rather than by his express utterances, he appears to be of those who imagine that psychophysic and cerebral physiology are going to make philosophy superfluous. Nevertheless he is clear and sound on the point that morality is not a sum of actions or something inferred from actions, but a state which determines action, herein agreeing with the best moral philosophers of all schools. His merits, and to a certain extent his defects, would make his writing especially congenial to English readers, if they could read it. But not many in this country can be expected to face Dutch, though the trouble of mastering it for reading purposes need not be formidable to any one already in possession of English and German.

Received also:

J. T. Cunningham, *Charles Darwin* ("Round Table Series"), Edinburgh, W. Brown, pp. 32.

H. Pratt, *New Aspects of Life and Religion*, London, Williams & Norgate, pp. xiii., 396.

A. Vogel, *Philosophisches Repetitorium:* i. *Geschichte der Philosophie*, 3te Aufl., Gütersloh, Bertelsmann, pp. x., 181.

G. Biedermann, *Philosophie des Geistes*, Prag, Tempsky; Leipzig, Freytag, pp. xxxi., 316.

H. Voltz, *Die Ethik als Wissenschaft*, Strassburg, Trübner, 1886, pp. 55.

VIII.—NOTES AND CORRESPONDENCE.

AN ALLEGED GAP IN MILL'S UTILITARIANISM.

Professor Sidgwick believes himself to have transcended the antagonism between Utilitarianism and Intuitionism, and to have filled up a gap in the expressed argument of Mill, a gap which he thinks Mill must have, consciously or unconsciously, filled up in the same manner as he himself has. The gap is there, he says, by reason of the fact that Mill has not shown desire for the general happiness to exist in any individual, while yet requiring for proof that a thing is desirable proof that it is desired. The doctrine by means of which he intends to stop this gap asserts that we have a notion of objective "right," and that one element of this notion is self-evident, that element being afforded us by the self-evident judgment which we make—that, if a thing is right for me and not for another, it must be by reason of some difference between us two other than the fact that I am myself. The notion then being completed by the empirical knowledge that the object of our aims must be the greatest happiness, it follows that we must not direct our efforts towards ourselves unless by reason of the probability that so directing them will increase the quantity of happiness which they effect.

Whether Mill's theory is in fact incomplete or not, it is very evident that he puts it forward advisedly as a complete theory, and himself feels no gap in it whatever. For he says in his first chapter quite plainly: "Questions of ultimate ends are not amenable to direct proof. Whatever can be proved to be good must be so by being shown to be a means to something admitted to be good without proof;" and it is in the light of this statement that his fourth chapter is to be read. Bearing this in mind, we must take what Mill says to mean this:—'Were I alone my actions would be directed to my happiness, and *necessarily* to that alone, for action takes place towards satisfaction of desire, and that is the same as pleasure or relief from pain. Others if alone would also direct their actions to a similar end. If therefore I am to aid others it must be towards that end, namely, what I consider will be their ultimate happiness. There can never be generated in me a desire for others' good apart from their happiness.' This is the entire meaning of Mill's statement, that the "general happiness is a good to the aggregate of all persons". There are two assumptions here: (1) that I am to aid others, (2) that I can form no conception of good to them, and can have no desire to do anything for them, apart from happiness. In the second of these Mill assumes exactly as much (neither more nor less) as Prof. Sidgwick does in his chapter on the Ultimate Good. It is not to be supposed that Mill meant to say that all do desire the general happiness. It was sufficient for him that each desires his own happiness, that he himself desired the general happiness, that he never knew any one to desire anything other than these two, and that he wished others to desire the latter. For the rest, Mill's whole proof is negative, and can only, after what he has said in his first chapter, be negative. He examines the statements of others that they desire something else, and hopes to convince them that they desire it only as a means to happiness. He says, in fact, that, if there is only one *kind* of thing which has ever been desired, it *must* be some variety of *that* one kind which moves the will in every case, and any question of preference must be between two varieties of that one kind, for example, between my own happiness and that of others.

Mill therefore never undertook to *prove* that others' happiness should be sought, for he simply said, "Questions of ultimate ends are not amenable to direct proof". He confined himself to the proof that happiness "somewhere or other" is the only thing that *can* be desired, and this he could only prove negatively, just as he might be able to prove sound to be the only thing audible. The second assumption remains, and to Mill quite consciously, "not amenable to direct proof," a mere desire of his own which he hopes by some means to make a universal desire.

His theory is therefore complete. No conception of a moral end has been framed without the implication of happiness. He has not himself framed one without that implication. He therefore believes that we cannot conceive any actions taking place otherwise than towards happiness. Assured therefore that no one can consciously aim at anything but happiness somewhere or other, his task is to instil the desire of happiness of others, but he declines the task of *proving* this. There is certainly here a possible gap, *if only it can be filled*:—to prove to me, an egoist, that I *ought* to seek others' happiness. How does Prof. Sidgwick fill the supposed gap?

Prof. Sidgwick seems to be, as stated above, very much in the same position as Mill in regard to the question of happiness being the ultimate aim; but the other part of the question he solves by finding the self-evident principle mentioned above. But whence does this principle in reality derive its self-evidence? It is simply from the fact that it is an analytic and not a synthetic proposition. The word "right" in itself connotes a regard for other people. Prof. Sidgwick certainly would evade this, if possible, by declaring that we do not regard with indifference a man who neglects his own happiness simply because he does not care for happiness; but it is only necessary here to remember that no action, or forbearance to act, on my part, is indifferent to others. My happiness always affects that of my children and that of those who are around me.

Nothing that Prof. Sidgwick has said of objective right will obviate the necessary implication of regard for others (even though it might eliminate regard for their praise or blame of myself) in my notion of right; he has himself given up the task of proving to any one that he ought to do something objectively right. "I at least (says he) do not know how to impart the notion of moral obligation to any one who is entirely devoid of it," and he has only proved happiness to be the ultimate good with as much cogency as Mill himself. That there has been any gap filled up therefore cannot be maintained. Both seem to be at one in fact and only different in name. But perhaps a difference lies in this, that to Mill "desirable," though not including all that is desired, connotes a *desire in some one*. The "ought" passes out from some one who has conceived a desire (the possibility of advance in this desire covering all that Prof. Sidgwick has been able to bring forward on "objective right"). Mill's one resource therefore to prove a moral end is to instil a desire for it in any possible way. Prof. Sidgwick simply says that every man ought to know that there is something which ought to be done and that part of this something is self-evident.

Certainly it is evident enough that if I "ought" to do *anything* I "ought" to respect the claims of others; but the question is, Is it self-evident that I "ought" to do anything? Prof. Sidgwick says it is self-evident—self-evident to him; but this simply means that *he* desires the claims of others to be respected by each. The "ought" corresponds to a desire of his. Just what Mill had said.

If then the Intuitionists are willing to accept this reconciliation (with the proviso always that it may some day be possible to frame a conception of a moral end without happiness,—just as possible as it may be to frame a

conception of a body unextended), the Utilitarians can have no objections. It is all Mill wished for. What else could he mean by his first chapter?

Melbourne. JAMES SUTHERLAND.

ATTENTION IN PERCEPTION.

Permettez moi de présenter à vos lecteurs une courte observation au sujet de l'excellent compte-rendu que M. J. Jacobs a fait de mon livre sur la *Psychologie du Raisonnement*, dans le dernier numéro du MIND (juillet 1886). L'auteur combat le rapprochement que j'ai essayé d'établir entre la perception extérieure et le raisonnement logique, en soutenant que ce qui sépare profondément ces deux actes, c'est que le premier est accompagné d'attention involontaire et le second d'attention volontaire. Je ne relèverais pas ici cette opinion—qui est toute personnelle à l'auteur, et qui ne me paraît pas inattaquable (car un grand nombre de perceptions, par exemple les observations du micrographe, exigent un effort d'attention volontaire et soutenu)—si M. Jacobs ne partait pas de là pour affirmer que j'accorde peu d'importance au phénomène de l'attention. C'est une erreur complète. J'ai indiqué à plusieurs reprises (p. 157 et p. 159) le rôle joué par ce que j'appelle avec Lewes *l'attitude de l'esprit;* ce terme n'indique pas autre chose qu'une orientation déterminée de l'attention. Je me propose d'ailleurs de consacrer un jour une monographie à ce phénomène, le plus obscur peut-être de toute la psychologie.

A. BINET.

THE ARISTOTELIAN SOCIETY FOR THE SYSTEMATIC STUDY OF PHILOSOPHY.—The annual business meeting, closing the seventh Session, was held on Monday, June 7. The Report of the Committee, which contained suggestions for printing and publishing an Abstract of Transactions, was approved and adopted. All the officers of the Society were re-elected for the ensuing Session, the first meeting of which was fixed for Monday, Nov. 8, at 22 Albemarle Street, at 8 p.m., when the usual Presidential Address will be given by Mr. Shadworth H. Hodgson: subject, "The Re-organisation of Philosophy". For information regarding membership, cards of admission, and programs of work for the next Session, application should be made to Mr. E. H. Rhodes, Hon. Sec., 11 Norfolk Road, St. John's Wood, N.W.

In the latest No. of the *Philosophische Monatshefte* it is announced that Prof. P. Natorp of Marburg will now be associated with Prof. Schaarschmidt in the conduct of that journal.

THE JOURNAL OF SPECULATIVE PHILOSOPHY.—Vol. xx. No. 1. B. P. Blood—Philosophic Reveries. N. M. Butler—The Problem of Kant's *K. d. r. V.* J. M. Rigg—The so-called Primary Qualities of Matter. Goeschel—On the Triplicity of the Proofs of Immortality (trans.). Notes and Discussions, &c.

REVUE PHILOSOPHIQUE.—An. xi., No. 7. Stricker—De la parole et des sons intérieurs. Ch. Féré—Impuissance et pessimisme. J. M. Guardia—Philosophes espagnols: Oliva Sabuco (i.). Rev. Gén. (Durkheim—Les études récentes de science sociale). Variétés (Ch. Henry—Loi d'évolution de la science musicale). Analyses et Comptes-rendus. Rev. des Périod. No. 8. H. Joly—La sensibilité et le mouvement (i.). J. Delboeuf—De l'influence de l'éducation et de l'imitation dans le somnambulisme provoqué. G. Noel—L'idée de nombre et ses conditions. Analyses, &c. (A. Seth, *The Scottish Philosophy*, &c.). Société de Psychologie Physiologique (L. Manouvrier—Mouvements divers et sueur palmaire consecutifs à des images

mentales. Ochorowicz—Sur le problème de la suggestion mentale. Pierre Janet—Deuxième note sur le sommeil provoqué à distance et la suggestion mentale pendant l'état somnambulique. No. 9. H. Joly—La sensibilité, &c. (fin). P. Tannery—La théorie de la matière d'Anaxagore. J. M. Guardia — Philosophes espagnols : Oliva Sabuco (fin). Variétés (P. Tannery—Une lettre inédite de Descartes). Analyses, &c. Rev. des Périod. Soc. de Psych. Phys. (Ch. Richet—Une observation de somnambulisme. Hoctés—Graphologie et personnalité). Correspondance (G. Jorissenne—Sur le langage intérieur).

La Critique Philosophique (Nouv. Sér.).—An. ii., No. 6. E. Blum —Contribution à la théorie de la vision. C. Renouvier—Le christianisme et la doctrine de l'évolution (suite). F. Pillon—Un ouvrage récent sur l'alchimie (suite). L. Dauriac—Education et enseignement. Notices bibliog. No. 7. C. Renouvier—Le christianisme, &c. (suite). F. Pillon —Les conférences de M. Robert Flint sur le théisme. L. Dauriac—Perception et déduction. L. Ménard—La transformation des croyances dans le monde hellénique. F. Pillon—A propos de la chaire de philosophie vacante à la Faculté de théologie protestante de Montauban. No. 8. F. Pillon—A propos de la théorie spenceriste de l'innéité mentale. C. Renouvier—Le christianisme nihiliste. F. Pillon—Encore un mot sur la chaire, &c. Notices bibliog.

Rivista Italiana di Filosofia.—Vol. ii., Disp. 1. N. Fornelli—Esposizione generale delle teorie pedagogiche di Herbart e della sua scuola. R. Benzoni—La simpatia nella morale dell' evoluzionismo e nel sistema Rosminiano. T. Ronconi—Un libro del Prof. F. Bonatelli contro la relatività della conoscenza. Bibliografie, &c.

Rivista di Filosofia Scientifica.—Vol. v., No. 6. T. Vignoli—Il periodo prelitico umano. F. Puglia—G. Romagnosi e l'odierno evoluzionismo giuridico. L. Friso—Il positivismo in Italia : R. Ardigò (ii.). Note Critiche (E. Tanzi—Ancora sulla sensibilità termica). Riv. Sint. (M. Pilo—La natura organica del carattere umano). Riv. Bib. (H. Spencer, *Ecclesiastical Institutions*, R. Flint, *Vico*, G. C. Robertson, *Hobbes*), &c.

Zeitschrift für Philosophie, &c.—Bd. lxxxix., Heft 1. F. Sattig—Der protagoreische Sensualismus u. seine Um- u. Fortbildung durch die Sokratische Begriffsphilosophie (ii.). C. Stumpf—Ueber die Vorstellung der Melodien. F. v. Medveczky-Baerenbach—Einige Gedanken über die Ziele u. Wege der Ethik. Anonymous—Streifzüge über die Philosophie der Gegenwart (ii.). Recensionen.

Philosophische Monatshefte.—Bd. xxii., Heft 8, 9. E. v. Hartmann—Der Begriff des Komischen in der modernen Aesthetik. G. Knauer —Weiteres zur Kantischen Lösung des Problems der Freiheit. Recensionen (J. Royce, *The Religious Aspect of Philosophy*, R. S. Perrin, *The Religion of Philosophy*, &c.). Literaturbericht. Bibliographie, &c. Heft 10. T. Achelis—Lotze's praktische Philosophie in ihren Grundzügen. Recensionen (N. Porter, *The Elements of Moral Science*, &c.). Literaturbericht. Bibliographie, &c.

Vierteljahrsschrift für wiss. Philosophie.—Bd. x., Heft 3. H. Höffding—Die Principien der Ethik. L. Busse—Ueber die Bedeutung der Begriffe 'essentia' u. 'existentia' bei Spinoza. B. Erdmann—Zur Theorie der Apperception (i.). A. Marty—Ueber Sprachreflex, Nativismus u. absichtliche Sprachbildung (iii.). Anzeige (T. Fowler, *Progressive Morality*). Selbstanzeigen, &c.

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